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National Fish Strain Registry - Trout

Species Tables of Reported Strains and Broodstocks



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National Fish Strain Registry - Trout Species Tables of Reported Strains and Broodstocks

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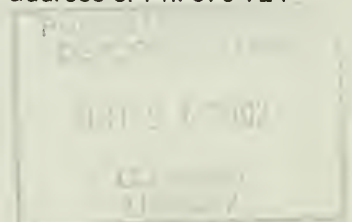


Table of Contents

List of tables	ii
List of appendices	iv
Acknowledgement	v
1. Introduction	1
2. NFSR-T structure	2
3. Basis for "Relative ratings"	3
4. Description of tabled information	3
5. Definition of traits and terms used in tables	5
6. Using the NFSR-T Tables	8
7. Procedure for updating NFSR-T information	9
8. NFSR-T distribution	9
Tables	10
Appendices	151

List of Tables

Table 1.	Inland trout species (Family: Salmonidae - trout) in National Fish Strain Registry - Trout. -----	10
Table 2.	Codes used to classify reported traits of salmonid species. -----	11

ATLANTIC SALMON

Table 3.1	Atlantic Salmon - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	12
Table 3.2.	Atlantic Salmon - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	13
Table 3.3	Atlantic Salmon - Selected reproductive performance and cultural trait information for reported broodstocks. -----	14
Table 3.4	Atlantic Salmon - Disease resistance rating (relative rating) of reported broodstocks for nine common salmonid diseases. -----	15
Table 3.5	Atlantic Salmon - Eight selected post-stocking field performance traits (relative rating) for reported broodstocks in riverine and lacustrine habitats ---	17

BROOK TROUT

Table 4.1	Brook Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	18
Table 4.2	Brook Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	23
Table 4.3	Brook Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	27
Table 4.4	Brook Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	32
Table 4.5	Brook Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -----	37

BROWN TROUT

Table 5.1	Brown Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	41
Table 5.2	Brown Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	45
Table 5.3	Brown Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	49
Table 5.4	Brown Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	53
Table 5.5	Brown Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -----	57

CUTTHROAT TROUT

Table 6.1.	Cutthroat Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	61
Table 6.2.	Cutthroat Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	64
Table 6.3.	Cutthroat Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	67
Table 6.4	Cutthroat Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	70
Table 6.5	Cutthroat Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -	74

LAKE TROUT

Table 7.1	Lake Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	76
Table 7.2	Lake Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	79
Table 7.3	Lake Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	82
Table 7.4	Lake Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	85
Table 7.5	Lake Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -----	88

RAINBOW TROUT

Table 8.1	Rainbow Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	90
Table 8.2	Rainbow Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	101
Table 8.3	Rainbow Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	110
Table 8.4	Rainbow Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	122
Table 8.5	Rainbow Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -----	134

STEELHEAD TROUT

Table 9.1	Steelhead Trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. -----	144
Table 9.2	Steelhead Trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks. -----	145
Table 9.3	Steelhead Trout - Selected reproductive performance and cultural trait information for reported broodstocks. -----	147
Table 9.4	Steelhead Trout - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	148
Table 9.5	Steelhead Trout - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats --	150

OTHER SALMONID SPECIES - Apache trout (*Oncorhynchus apache*), Arctic Char (*Salvelinus alpinus*), Gila trout (*Oncorhynchus gilae*), and Golden trout (*Oncorhynchus aguabonita*)

Table 10.1	Other salmonid species - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information. ---	152
Table 10.2	Other salmonid species - Selected broodstock, hatchery, and field Performance characteristics for reported broodstocks. -----	155
Table 10.3	Other salmonid species - Selected reproductive performance and cultural Trait information for reported broodstocks. -----	158
Table 10.4	Other salmonid species - Disease resistance rating (relative ratings) of reported broodstocks for nine common salmonid diseases. -----	160
Table 10.5	Other salmonid species - Eight selected post-stocking field performance traits (relative ratings) for reported broodstocks in riverine and lacustrine habitats -----	162

Appendices

- Appendix A. National Survey of Inland Trout Strains --- NFSR-T survey form (blank) for database users, cooperators, and clients to submit new information on salmonid strains/broodstocks (wild, captive or domestic) for inclusion in NFSR-T. ----- 164
- Appendix B. National Fish Strain Registry - Trout (NFSR-T): New Strain/Broodstock Recommendation Form. --- Recommendation form used by fisheries personnel to identify new salmonid strains/broodstocks (wild, captive, or domestic) for inclusion in the database. This recommendation form may be reproduced locally. ----- 174

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1. Introduction

Prior to 1980, useful information on genetic traits, performance characteristics, and habitat preferences of fish populations was unavailable to fisheries managers to support decisions on the strains to be used in each production or management situation. Managers had little choice but to use the broodstock sources available to them for the fish needed to stock fisheries within their jurisdiction. Until recently, fish strains were shipped throughout the country and stocked in disparate fisheries before managers understood the potential long term detrimental implications for resident natural fish populations. The need for detailed information on managed fish populations increased dramatically as managers became aware of the genetic consequences of mixing adapted and non-adapted strains. In the late 1970's, the U.S. Fish and Wildlife Service undertook development of the **Trout Strain Registry (TSR)**, a database of genetic, performance, and management information on trout strains used by natural resource management agencies and aquaculture organizations throughout the United States. The initial TSR was distributed to fisheries agencies and contributors in 1981. Information was limited to the five inland trout species: brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), cutthroat trout (*Oncorhynchus clarki*), lake trout (*Salvelinus namaycush*), and rainbow trout (*Oncorhynchus mykiss*). Three types of information are needed by fisheries managers to effectively identify the strains best suited for a given target fishery: (1) performance characteristics of candidate strains, (2) habitat characteristics of the target fishery, and (3) management objectives for that fishery. The goal of the TSR was to provide fisheries managers the strain characterization information, i.e., life history, genetic, reproductive, and behavioral characteristics, needed to make informed management choices for each fishery. The TSR was updated in 1994 and redistributed to management agencies and survey contributors as the **National Trout Strain Registry (NTSR)**.

The concept of cataloging fish strain and broodstock information into a single database that is made available to fisheries managers, fish producers, and researchers, was expanded in 1994 to include most managed fish species in the United States. The database was renamed the **National Fish Strain Registry (NFSR)** and component databases (sub-registries) added for different generic families of managed fishes. Current NFSR sub-registries and the generic fish families in each, are: (1) inland trout (*Salmonidae*), (2) catfish (*Ictaluridae*), (3) sturgeon (*Acipenseridae*) and paddlefish (*Polyodontidae*), and (4) perch (*Percidae*) and pikes (*Esocidae*). Sub-registries are identified as the National Fish Strain Registry with the family common name added as an extension. The new name for the inland trout sub-registry is, the National Fish Strain Registry - Trout, identified with the acronym NFSR-T. The NFSR-T was expanded to include all managed fresh water species of the family Salmonidae, except the Pacific salmons (Table 1). The NFSR is a dynamic dataset that is updated and expanded continuously as new information becomes available. The NFSR data repository strives to collect, analyze, and interpret the diversity of strain information needed by managers and aquaculturists (i.e., breeding history, life history, disease tolerance, stress tolerance, habitat preference, hatchery performance, and field performance) on broodstocks and strains of each managed and cultured species. The NFSR provides fisheries personnel the information needed to more effectively identify the most suitable broodstock sources for each production and management program. Commercial producers use the NFSR to identify broodstocks that effectively meet their production objectives. The NFSR is a

joint project of the U. S. Geological Survey, Northern Appalachian Research Laboratory and the U.S. Fish and Wildlife Service, Division of Fish Hatcheries.

The NFSR-T was designed in cooperation with the Inland Trout Strain Advisory Committee, a panel of fisheries experts from the U.S. Fish and Wildlife Service, state fish and game agencies, and commercial aquaculture organizations. The committee identified the suite of traits (believed to be) most important to broodstock managers, culturists, field biologists, commercial aquaculturists and research scientists trying to match the performance characteristics of individual strains with production and management objectives. Traits include: broodstock origin, breeding history, life history, reproduction, behavior, disease resistance, stress tolerance, cultural performance, post-stocking performance, and current management applications. A national survey questionnaire was developed to request standardized data on managed broodstocks, domestic or wild, throughout the United States (Appendix A). Surveys were distributed nationally to federal and state fisheries agencies, fisheries research facilities and commercial producers. Survey information was compiled in the NFSR-T for all reported species (Table 1). Responses to questions requiring subjective ratings were coded to facilitate summarization and reporting (see Table 2 for code definitions). Information for the seven (7) primary species is reported by species (Table sections 3 - 9), with minor species combined and reported in Table section 10. Each table sections for each species consists of 5 sub-tables numbered 1 to 5.

2. NFSR-T structure

Broodstock information was reported using the survey form, "National Survey of Inland Trout Strains" (see survey form in Appendix A). The survey was designed in four sections to develop data on different categories of broodstock characteristics, as described below.

- A. Broodstock Identification Section - Information is identified to uniquely identify the broodstock and collect four types of data relationship:
 - 1) Species, strain, and broodstock names - These names are used in combination to assign a unique identification number for each broodstock. This number allows multiple reports to be entered for a broodstock and used later by the program to compile information from all appropriate records into a single broodstock summary report, when requested.
 - 2) Contact person - A specific contact person is identified for each broodstock with name, title, address, and telephone information. This person can be contacted for additional information when needed. (The broodstock manager is designated as the contact person for most broodstocks).
 - 3) Publications - A list of publications and "in-house" reports (with title, author, and publisher/issuer) is requested for all strains/broodstock.
 - 4) Additional information sources – A list of 1 – 3 other persons or agencies that could provide information on the reported broodstock.

- B. Broodstock Section - Information to describe broodstock origin, genetic history, life history, reproduction, behavior, and performance characteristics is provided by the broodstock manager
- C. Hatchery/Captive Production Section – Information includes: disease status, stress tolerance, culture performance, and description of hatchery rearing conditions during the culture period. Hatchery managers for one or more hatcheries where fish from this broodstock have been cultured provide this information.
- D. Field Performance Section - Information includes: type of fishery stocked, post-stocking growth and survival, angling susceptibility, and stocking program relative success. One or more field biologists who have worked with fish from this broodstock planted or stocked into different management situations provide this information.

3. Basis for "relative ratings"

The advisory committee recognized the impossibility of obtaining standardized trial data for many important hatchery and field performance traits due to diverse, uncontrolled variability in environmental parameters (temperature, water quality, elevation, location, etc.) among production situations (wild fish, hatchery raceways, farm ponds, etc.) and management situations (restoration, enhancement, recreational, food fish, etc.). As a result, we use a subjective rating system that is based on the past experience of broodstock managers, hatchery managers, and field biologists. Traits such as handling stress, disease resistance, and post-stocking performance were scored using a five-level rating scale (see Table 2 for rating systems and interpretations) based on their experience working with the given strain or broodstock relative to other strains or broodstocks in the same situation. Respondants were given the option of a "0" rating, if they had no experience with other strains in the same situation or had not experienced a particular disease in their facilities. Data based on subjective rating systems are identified as "relative ratings".

4. Description of tabled information

Tables in this manual have been extracted from the NFSR-T to provide cooperators and contributing agencies a complete set of information on the most commonly requested broodstock traits. This manual is organized in a series of Species Sections, presented alphabetically by species common name. Species with eight or more reported broodstocks are presented in separate sections (Tables 3 to 9), while species with seven or less reported broodstocks have been pooled into one species section (Table 10 - titled "Other Salmonid Species"). Three types of tabular information are provided: Introductory Tables, Species Section Tables, and Appendices.

- A. Introductory Tables - Information is provided to guide users in interpreting the data found in the Species Section Tables. These include:

Table 1. List of salmonid species (scientific and common names) included in the NFSR-T with broodstock information.

Table 2. List of codes used throughout the NFSR-T to identify individual traits and to rate trait performance.

B. Species Section Tables - The eight species sections, numbered Tables 3 to 10, are organized alphabetically by species common name. Each species section consists of five component tables. Tables are organized alphabetically by strain name and broodstock name within strain when multiple broodstocks were reported. Information in component tables for each species section include:

Table (Section Number) - 1. Reported strains and broodstocks of the species are listed with the name of contact person. Contact address, telephone number and FAX number are listed to facilitate follow-up information requests.

Table (Section Number) - 2. Selected broodstock, hatchery, and field performance characteristics are listed for reported broodstocks.

Table (Section Number) - 3. Selected reproductive performance and culture traits are listed for reported broodstocks.

Table (Section Number) - 4. Selected disease resistance ratings are listed for reported broodstocks.

Table (Section Number) - 5. Selected post-stocking field performance traits are listed for reported broodstocks.

C. Appendices - Copies of NFSR-T forms for fisheries personnel when submitting information for inclusion in the NFSR-T

Appendix A - National Survey of Inland Trout Strains - NFSR-T survey questionnaire used by federal and state agencies, universities, and private growers to submit information for inclusion in the NFSR-T. The blank form provided may be copied and used to submit additional information on currently reported broodstocks or information on new broodstocks to be added to the NFSR-T.

Appendix B - National Survey of Inland Trout Strains - Strain/Broodstock Recommendation Form – An instruction sheet and form is provided for NFSR-T users, cooperators, and clients to identify and recommend additional new strains/broodstocks for inclusion in the National Fish Strain Registry - Trout

5. Definition of traits and terms used in tables

Traits used to characterize strains/broodstocks in this manual are described and defined in the following discussion. Where the trait values were calculated, formulas and calculation procedures are described.

Agency - The type of agency holding the broodstock: F = Federal, S = State, U = University, T = Tribal, C = Commercial or private.

Angling susceptibility (relative rating) - Measured using a five-step scale to describe broodstock performance relative to other broodstocks (strains) with which the reporter has worked. (see Table 2 for definitions).

Availability - The reported availability (as eggs, fingerlings, or adults) to other agencies or individuals when the broodstock information was submitted or last updated.

Broodstock name - Name used by the broodstock facility to identify the broodstock. These names typically contain the strain name or hatchery name where the broodstock is maintained. When a particular broodstock name is used at more than one location, the state abbreviation where the hatchery is located is appended to the broodstock name for state agencies and the abbreviation of the hatchery name for federal facilities.

Broodstock type - Broodstocks were classified into three types: Domestic = broodstock has been held in culture for two or more generations; Wild = broodstock is free ranging or natural fish, Captive = broodstock is progeny of wild broodstock reared to maturity in a cultured or hatchery situation.

Contact person - Person identified for each NFSR-T broodstock who can provide additional detailed information on that broodstock; usually the individual who reported the broodstock information or the broodstock station manager. In cases where the named individual is no longer at the broodstock location, the current facility manager is the designated contact person.

Disease classification - The disease classification or status reported for the broodstock or facility where the broodstock is cultured. Disease classification codes are those developed by the USFWS and accepted by the American Fisheries Society, Fish Health Section. If there is interest in obtaining fish from a particular broodstock, the contact person can verify current fish health status (see Table 2 for definition of individual diseases).

Disease resistance rating (relative rating) - Disease resistance was scored for nine diseases: furunculosis (FRK), bacterial kidney disease (BKD), enteric redmouth (ERM), ceratomyxa shasta (CS), infectious pancreatic necrosis (IPN), viral hemorrhagic septicemia (VHS), infectious hematopoietic necrosis (IHN), bacterial gill disease (BGD), and cold water disease (CWD) using a subjective five step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past. (see Table 2 for definition of individual ratings).

Effective population size (N_e) - Calculated effective population size is based on the reported number of parents used to initiate the original broodstock generation.

$$N_e = 4(N_m + N_f) / (N_m N_f)$$

(N_e = Effective Population Size, N_m = Number of male parents, and N_f = Number of female parents).

Genetic analysis - Broodstocks are subjected to genetic analysis for a variety of reasons including determination of underlying genetic variability, genetic constitution, and stock structure determination. Types of genetic analysis reported are: allozyme, mitochondrial DNA, nuclear DNA, and microsatellite analysis. A blank in this column indicates the broodstock has not been characterized or the broodstock manager did not know.

Handling stress (relative rating) - Tolerance to handling stress is the ability of management to work with and handle the fish at different life stages with minimum mortality and setback in growth rate. Handling stress was measured using a five-step scale to describe the performance of the particular strain relative to other strains the respondent had worked with in the past. (see Table 2 for definition of individual ratings).

Hatch percent - The mean percent hatch of egg lots over the entire spawning season. Percentages were measured from eyed egg stage through hatching using the formula: % hatch = (number hatched fry / number eyed eggs) X 100.

Management applications - Managers were asked to identify management situations where fish from this broodstock were stocked and if they were well adapted or were used successfully. Management applications in riverine and lacustrine situations include: fingerling stocking, catchable stocking, supplementation stocking, and restoration stocking. Management applications in culture situations include: raceway culture and tank culture.

Origin of broodstock - The reported original source (hatchery or body of water) from which the current broodstock was developed.

Post - stocking growth (relative rating) - Growth rate after stocking was measured using a five step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Post - stocking survival (relative rating) - Fish survival after stocking was measured after 90 days and after one winter using a five-step scale to describe the performance of the particular strain relative to other strains the respondent had worked with in the past (see Table 2 for definition of individual ratings).

Spawning period - The earliest and latest months and day of the month when males and females of the broodstock "normally" spawn each year.

Strain - Fish strain is “usually” the earliest known name of the hatchery or body of water (river, lake, drainage, etc.) where the broodstock originated. In some cases, managers did not know the origin of a broodstock or the broodstock had been retained in that facility for an extended period of time. In these situations, the hatchery name was assigned as the strain name until additional information becomes available. Broodstocks originating from wild sources are always assigned the name of the originating body of water, irrespective of past introductions from other sources.

Survival percentage - Percent of fish surviving to 90 days of age. Survival was measured as the number of fish on hand at 90 days post-hatch divided by the number of fish hatched, multiplied by 100.

Tendency to migrate (relative rating) - Tendency to move (migrate) out of the fishery where stocked. Tendency to migrate was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to acidity, pH < 5.0 (relative rating) - Tolerance to pH levels less than 5.0 was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to catch and release fishing (relative rating) - Ability of fish to survive after capture on hook and line and released was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to crowding (relative rating) - Crowding tolerance, the ability to survive and grow at higher fish densities than other strains, was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to high temperatures (relative rating) - Tolerance to higher temperatures (>70° F) was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Tolerance to transportation (relative rating) - Transportation stress is tolerance to a composite of stressors including: crowding, handling, and the reduced oxygen and elevated nitrogen levels associated with moving fish from one location to another. Tolerance to transportation stress was measured using a five-step scale to describe the performance of the particular strain relative to other strains the reporter had worked with in the past (see Table 2 for definition of individual ratings).

Weight - The mean weight of fish at 90-days post-hatch and 1-year post-hatch was measured in units of "number of fish" per pound.

6. Using the NFSR-T tables

The tables in this document are organized into sections, a separate section for each species with more than eight reported broodstocks. Species sections are listed in alphabetic order. Species with seven or less reported broodstocks are combined into the "Other Salmonid Species" section with species listed in alphabetic order in each table of the section. Each species section consists of five tables (see section 4.B for description).

These tables may be used to: (1) find information on a single strain or broodstock or (2) identify strains or broodstocks with specific desired traits. All table are organized alphabetically by strain, then by broodstock within strain.

A. Use tables to find information on a specific strain or broodstock.

- 1) Go to the appropriate Species Section.
- 2) Determine the strain and broodstock name.
- 3) Determine the table of interest based on the category of information sought i.e., broodstock status, disease resistance, hatchery, or post-stocking performance.
- 4) Find the strain or broodstock in the appropriate table.
- 5) If additional information is desired, go to Table 1 (of the same Species Section) to identify the contact person who can provide first hand information.

B. Use tables to identify strains or broodstocks with specific desired traits among the reported strains/broodstocks

- 1) Go to the appropriate Species Section.
- 2) Determine the trait or traits of interest.
- 3) Determine the level of performance desired for each selected trait.
- 4) Determine the table where each trait is located.
- 5) Scan table values for each trait and record broodstocks that meet the desired performance level.
- 6) Identify 1 - 5 broodstocks that "best" meet all selection criteria.
- 7) Go to Table 1 (of the same Species Section) to identify the contact person for the selected broodstock(s). Contact that person to obtain more detailed information and current broodstock availability information.

7. Procedure for updating the NFSR-T information

A mechanism for updating broodstock information was built into the NFSR-T by the national survey format. Collectively, contact persons identified in the survey process form a network of individuals and organizations managing and culturing fish broodstocks that can provide new and updated broodstock information on an annual basis. This network of contact persons can also provide copies of new publications and agency reports to confirm initial subjective or incomplete data.

Fisheries managers may submit data on the strains/broodstocks they culture or manage using the blank form "National survey of inland trout strains" (Appendix A). Completed surveys are mailed to the address provided on the form. Managers may also wish to recommend other specific strains or broodstocks for inclusion in the NFSR-T. A strain/broodstock recommendation form is provided in Appendix B for this purpose. To recommend strains/broodstocks for inclusion in the NFSR-T, enter the requested information and mail to the address provided in the instructions. When the recommendation form is received, the needed information will be requested from the broodstock manager and the strain/broodstock added to the NFSR-T.

8. NFSR-T distribution

The NFSR-T application program is written using the software, R-Base 2000 and Tango 2000 by R:Base Technologies, Inc. (** No endorsement of this product by the U.S. Government is given or implied). The NFSR-T was designed, developed, and documented by Harold L. Kincaid and Leslie J. Mengel, USGS, Northern Appalachian Research Laboratory. NFSR-T information is available to all segments of the fisheries industry -- federal and state management agencies, universities, private producers/growers and aquaculturists -- seeking information on individual fish strains or broodstocks. The NFSR-T is available on the internet at the address: <http://nfsr.er.usgs.gov>. Additional information about the National Fish Strain Registry may be obtained by writing to:

U. S. Geological Survey
Leetown Science Center
Northern Appalachian Research Laboratory
ATTN: NFSR-T, Library
R.D. 4, Box 63
Wellsboro, PA 16901

Table 1. Inland trout species (Family: Salmonidae - trout) in the National Fish Strain Registry-Trout.

Scientific name	Common name
<i>Oncorhynchus aguabonita</i>	Golden trout
<i>Oncorhynchus apache</i>	Apache trout
<i>Oncorhynchus clarki</i>	Cutthroat trout
<i>Oncorhynchus gilae</i>	Gila trout
<i>Oncorhynchus mykiss</i>	Rainbow trout
<i>Oncorhynchus mykiss</i>	Steelhead trout
<i>Oncorhynchus nerka</i>	Kokanee (landlocked form)
<i>Salmo salar</i>	Atlantic salmon
<i>Salmo trutta</i>	Brown trout
<i>Salvelinus alpinus</i>	Arctic char
<i>Salvelinus confluentus</i>	Bull trout
<i>Salvelinus fontinalis</i>	Brook trout
<i>Salvelinus malma</i>	Dolly varden
<i>Salvelinus namaycush</i>	Lake trout
<i>Thymallus arcticus</i>	Arctic grayling

Table 2. Codes used to classify reported traits of salmonid species.

Category	Code	Code Interpretation
Broodstock Availability	Y (YES)	Broodstock is available (contact broodstock manager).
	N (NO)	Broodstock is not available.
	L (Limited)	Broodstock may be available in certain situations (contact broodstock manager).
	U	Unknown.
Agency/ Organization Type	F	Agency of federal government
	S	Agency of state government
	T	Indian tribe
	U	University
	C	Private organization or commercial producer
Stress Resistance Relative Rating	0	Unknown
	1	Resistance to specified stress is "Poor"
	2	Resistance to specified stress is "Below average"
	3	Resistance to specified stress is "Average"
	4	Resistance to specified stress is "Above average"
	5	Resistance to specified stress is "Superior"
Disease Resistance Relative Rating	0	Unknown
	1	Resistance to specified disease is "Very Susceptible"
	2	Resistance to specified disease is "Susceptible "
	3	Resistance to specified disease is "Average"
	4	Resistance to specified disease is "Resistant"
	5	Resistance to specified disease is "Very Resistant"
Disease Codes	FRK	Furunculosis (<i>Aeromonas salmonicida</i>)
	BKD	Bacterial Kidney Disease (<i>Renibacterium salmonarum</i>)
	ERM	Enteric Redmouth (<i>Yerinia ruckeri</i>)
	CS	<i>Ceratomyxa shasta</i>
	IPN	infectious Pancreatic Necrosis
	VHS	Viral Hemorrhagic Septicemia
	IHN	infectious Hematopoietic Necrosis
	BGD	Bacterial Gill Disease
	CWD	Cold Water Disease
Relative Rating Post-stocking Performance Traits	0	Unknown
	1	Trait performance is "Poor"
	2	Trait performance is "Below average"
	3	Trait performance is "Average"
	4	Trait performance is "Above average"
	5	Trait performance is "Superior"

Table 3-1. Atlantic salmon - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Big Squam Lake	Grande Lake Stream (ME)	Donald Miller	NHF&G, Region 2, P. O. Box 417, New Hampton, NH 03256	Ph. 603-744-5470 Fax 603-744-6302
Connecticut	Connecticut - D	David Summer	Quinebaug SFH, 151 Trout Hatchery Road, P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Connecticut	Connecticut - SR	Mickey Novak	Richard Cronin NSS, 51 E. Plumtree Road, Sunderland, MA 01375	Ph. 413-548-9010 Fax 413-548-9010
Merrimack	Merrimack	Victor Segarich	USFWS, Nashua NFH, 151 Broad Street, Nashua, NH 03063	Ph. 603-595-0891 Fax 603-595-0892
Penobscot	Penobscot - W	Tom King	Craig Brook NFH, East Orland, P.O. Box A, East Orland, ME 04431	Ph. 207-469-2803 Fax 207-469-6847
Sebago	Little Clear	Lance Durfey	NYDEC, P.O. Box 296, Route 86, Ray Brook, NY 12977	Ph. 518-897-1333 Fax
Sebago	Sebago - W	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
West Grand	Grand Lake Stream	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
West Grand	West Grand - D	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
West Grand	West Grand LL - W	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395

Table 3-2. Atlantic salmon - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Big Squam Lake	Grande Lake Stream (ME)	L	S	----	Grande Lake stream (ME)	Wild	----	----	6,10
Connecticut	Connecticut - D	Y	S	----	Penobscot strain from Connecticut River	Wild	----	----	9,10
Connecticut	Connecticut - SR	L	F	YR, AS	Fish returning to Penobscot River	Unknown	----	1,2	9
Merrimack	Merrimack	L	F	A	Penobscot River, Tadossal, St. Johns, and Union River	Wild	158	----	----
Penobscot	Penobscot - W	N	F	----	-----	Wild	----	----	----
Sebago	Little Clear	Y	S	----	Sebago Lake, West Grande Lake, and Gullspang	Unknown	1600	1	4
Sebago	Sebago - W	N	S	----	Wild brood fish	Wild	----	----	3,4,9
West Grand	Grand Lake Stream	N	S	----	West Grand Lake, ME	Wild	----	----	----
West Grand	West Grand - D	Y	S	A	West Grand Lake	Wild	240	2	4,8
West Grand	West Grand LL - W	N	S	----	West Grand Lake, Maine	Wild	----	----	3,4,9

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - Aeromonas salmonicida (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis* virus; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis* Virus; OMV - *Oncorhynchus masou* virus; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 3-3. Atlantic Salmon - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	
Big Squam Lake	Grande Lake Stream (ME)	1015	1210	Mean No.	130.00 1	8.00 1	98 1	3.0 1	3.0 1	1.0 0
Connecticut	Connecticut - D	1001	1130	Mean No.	550.00 1	7.100 1	95 1	5.0 1	5.0 0	5.0 1
Merrimack	Merrimack	1001	1231	Mean No.	339.00 2	8.05 2	84 2	2.5 2	3.5 2	3.5 2
Sebago	Little Clear	1101	1130	Mean No.	180.00 1	10.00 1	90 1	3.0 1	3.0 1	4.0 1
Sebago	Sebago - W	----	----	Mean No.	40.00 1	4.20 1	98 1	3.0 1	3.0 1	3.0 1
West Grand	West Grand - D	1001	1130	Mean No.	25.00 1	7.00 1	95 1	5.0 1	5.0 1	4.0 1
West Grand	West Grand LL - W	----	----	Mean No.	87.00 2	8.50 2	98 2	3.0 2	3.0 2	4.0 2

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 3-4. Atlantic Salmon – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yersinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 3-5. Atlantic Salmon – Eight selected post-stocking field performance traits (relative ratings^{1/}) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to																								
		Survival					Growth					Angling suscep- tibility					Tendency to migrate					Temper- ature > 70 °C					pH < 5.0					Catch & release				
		90 days		Over-winter																																
		R	L	R	L	R	L	RL	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L						
Big Squam Lake	Grande Lake Stream (ME)	Mean	---	3.0	---	4.0	---	4.0	---	4.0	---	3.0	---	3.0	---	3.0	---	3.0	---	1.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0						
		No.	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1						
Connecticut	Connecticut - D	Mean	3.0	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
		No.	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Penobscot	Penobscot - W	Mean	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
		No.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sebago	Little Clear	Mean	3.0	---	3.0	---	4.0	---	4.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---						
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---						
Sebago	Sebago - W	Mean	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	---	---	3.0	---	3.0	---	3.0	---	3.0	---						
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	---	---	3.0	---	3.0	---	3.0	---	3.0	---						
West Grand	West Grand LL - W	Mean	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	---	---	3.0	---	3.0	---	3.0	---	3.0	---						
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	---	---	3.0	---	3.0	---	3.0	---	3.0	---						

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 4-1. Brook trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Armstrong	ARM BKT	Kyle Briggs	NC WRC, Armstrong Fish Hatchery, 3336 Armstrong Creek Road, Marion, NC 28752	Ph. 828-756-4179 Fax 828-756-0066
Assinica	Assinica (ME)	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Assinica	Assinica (MI)	John Driver	MI DNR, Marquette SFH, 488 Cherry Creek Road, Marquette, MI 49855	Ph. 906-249-1611 Fax 906-249-3190
Beitey	Beitey (WA)	Gerald Beitey	Beitey Enterprises, 3502 Beitey Road, Valley, WA 99181	Ph. 509-935-6100 Fax
Bellefonte	Oswego (GA)	Bill Couch	GA WRD, Buford SFH, 3204 Trout Place, Cumming, GA 30041	Ph. 770-781-6888 Fax 770-781-6889
Bellefonte	Oswego (PA)	John Fritzman	Oswayo FCS, R.D.2, Box 84, Coudersport, PA 16915	Ph. 814-698-2102 Fax 814-698-2508
Coaster - Tobin Harbor	WST(HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Coolridge Creek	Coolridge Creek - W	John Huber	MN DNR-Fisheries, Crystal Springs SFH, RR #2, Box 481, Altura, MN 55910	Ph. 507-796-6691 Fax 507-932-5483
Edray	Edray (WV)	John Murry	Pisgah Forest SFH, PO Box 728, Pisgah Forest, NC 28768	Ph. 704-877-3121 Fax
Fernwood	Fernwood - D	Thomas Field	Fernwood-Limne, Inc., 77 Saratoga Road, Route 9, Gansevoort, NY 12831-1034	Ph. 518-793-1282 Fax
Gilbert	Gilbert (NH)	Wayne Pachal	NHF&G, Berlin SFH, RR 3, Box 378d, Berlin, NH 03570	Ph. 603-449-3412 Fax
Greenspring	Strohm	Charles Finui	Green Springs Trout Farm, 1129 Shaffer Run Road, Somerset, PA 15501	Ph. 814-445-5427 Fax

Table 4-1. Brook trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Hackettstown	Reed Creek	David Alt	Reeds Creed SFH, RT 1, Box 78-A, Franklin, WV 26807	Ph. 304-358-2595 Fax
Henrys Lake	Henrys Lake (ID)	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Horn Lake	Horn Lake (W)	William Miller	NYS DEC, Bureau fisheries Region 5, P.O. Box 220, 232 Hudson St., Warrensburg, NY 12885	Ph. 518-623-3671 Fax
Iron River	Iron River (MI)	John Driver	MI DNR, Marquette SFH, 488 Cherry Creek Road, Marquette, MI 49855	Ph. 906-249-1611 Fax 906-249-3190
Kennebago	Phillips-Kennebago (ME)	Christopher Short	ME DIF&W, Phillips SFH, R.R #1, Box 910, Phillips, ME 04966-9724	Ph. 207-639-2081 Fax
Kettle Morain	Kettle Morain (WI)	Robert Wickel	Silver Moor Springs, N10638 E. Isle of Pines, Elcho, WI 54428	Ph. 715-275-3671 Fax
Laurel Hill	Laurel Hill (PA)	Jim Blasko	Laurel Hill Trout Farm, RD 1 Box 135, Osterburg, PA 16667	Ph. 814-276-3993 Fax
Little Tupper Lake	Little Tupper Lake - W	William Miller	NYS DEC, Bureau fisheries Region 5, P.O. Box 220, 232 Hudson St., Warrensburg, NY 12885	Ph. 518-623-3671 Fax
Marlette	Marlette (NV)	Dave Sanger	NV Division of Wildlife, 1100 Valley Road, Reno, NV 89512	Ph. 775-688-1536 Fax 775-688-1595
Nashua	Nashua (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road, P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Nashua	Paint Bank	Charles Stephens	Paint Bank FCS, Route 1, Box 12, Paint Bank, VA 24131-9702	Ph. 540-897-5401 Fax 540-897-5402
Nashua	Pequest	Kurt Powers	NJDF&W, Pequest SFH, 605 Pequest Road, Oxford, NJ 07863	Ph. 908-637-4173 Fax 908-637-6735

Table 4-1. Brook trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Nipigon Lake	Nipigon Lake - D	Gregory Fischer	Red Cliff Fish Hatchery, Red Cliff Band of Lake Superior, P.O. Box 529, Bayfield, WI 54814	Ph. 715-779-3729 Fax 715-779-3719
Nipigon Lake	Nipigon Lake (CAN)	Peter Richard	Dorion FCS, RR 1, Dorion, Ontario, ON POT 1KO	Ph. 807-857-2322 Fax
Oswayo	Reynoldsdale (PA)	Patrick Ferko	PA F&B Commission, Reynoldsdale FCS, 162 Fish Hatchery Road, New Paris, PA 15554	Ph. 814-839-2211 Fax 814-839-4911
Owhi	BKOW	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Owhi	Ford	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
Owhi	Owhi (NV)	Dave Sanger	NV Division of Wildlife, 1100 Valley Road, Reno, NV 89512	Ph. 775-688-1536 Fax 775-688-1595
Paint Bank	St. Croix Falls	Jeff Tabat	WDNR, St. Croix Falls SFH, P.O. Box 397, St. Croix Falls, WI 54024	Ph. 715-483-3535 Fax
Paradise	Maine - Dry Mills	John Veader	ME DIF&W, Dry Mills SFH, 158 Weymouth Road, Gray, ME 04039	Ph. 207-657-4962 Fax
Paradise	Maine - Phillips	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Pisgah	Pisgah (NC)	John Murry	Pisgah Forest SFH, PO Box 728, Pisgah Forest, NC 28768	Ph. 704-877-3121 Fax
Rome	Rome (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Rome	Rome (NH)	Jay Hendee	NH Fish & Game Dept., Region 2, PO Box 417, New Hampton, NH 03256	Ph. 603-744-5470 Fax 603-744-6302

Table 4-1. Brook trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Rome	Salisbury	Jay Hendee	NH Fish & Game Dept., Region 2, PO Box 417, New Hampton, NH 03256	Ph. 603-744-5470 Fax 603-744-6302
Sandwich	Sandwich (MA)	Ken Simmons	MA Division Fish & Wildlife, Field Building, Westoboro, MA 01581	Ph. 508-792-7270 Fax
Shy Beaver	Fernwood	Thomas Field	Fernwood-Limne, Inc., 77 Saratoga Road, Route 9, Gansevoort, NY 12831-1034	Ph. 518-793-1282 Fax
Soda Lake	Soda Lake (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Sourdnahunk	Phillips Sourdnahunk (ME)	Christopher Short	ME DIF&W, Phillips SFH, R.R #1, Box 910, Phillips, ME 04966-9724	Ph. 207-639-2081 Fax
Spring Creek	Spring Creek (MT)	Anthony Nowak	Spring Creek Trout Hatchery, Route # 1, Box 1600, Lewistown, MT 59457	Ph. 406-538-3538 Fax 406-538-2401
Spring Creek	Spring Creek (MT2)	Anthony Nowak	Spring Creek Trout Hatchery, Route # 1, Box 1600, Lewistown, MT 59457	Ph. 406-538-3538 Fax 406-538-2401
St. Croix Falls	St. Croix Falls (IA)	David Marolf	Manchester SFH, 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
St. Croix Falls	St. Croix Falls (MN)	Gary Mattson	Spire Valley SFM, 1852 State 6 NE, Remer, MN 56672	Ph. 218-792-5164 Fax 218-792-5164
Temiscamie	Temiscamie (MI)	John Driver	MI DNR, Marquette SFH, 488 Cherry Creek Road, Marquette, MI 49855	Ph. 906-249-1611 Fax 906-249-3190
Temiscamie	Temiscamie (NY)	Jonathan Fieroh	Brandon Fisheries, HCR 1, Box 69, Paul Smiths, NY 12970	Ph. 518-327-3508 Fax 518-327-3508
West Virginia	San Joaquin (CA)	Roger Ellis	CA DF&G, 4234 East Shaw Avenue, Fresno, CA 93710	Ph. 559-243-4005 Fax 559-243-4025

Table 4-1. Brook trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
West Virginia	West Virginia (H)	Bryan Plemmons	Casta Line Trout Farms, 97 Golden Brook Lane, Goshen, VA 24439	Ph. 540-997-5461 Fax
White Sulfur Springs	Owhi	Tom Dumont	Salisbury FCS, RD 1, Box 218, Salisbury, VT 05769	Ph. 802-352-4371 Fax
Whitney	Crystal Lake (CA)	Shane Overton	CA Dept. F&G, Crystal Lake Hatchery, 40158 Baum Lake Road, Cassel, CA 96016	Ph. 530-335-4111 Fax 530-335-3031
Windfall	Windfall (NY)	William Miller	NYS DEC, Bureau fisheries Region 5, P.O. Box 220, 232 Hudson St., Warrensburg, NY 12885	Ph. 518-623-3671 Fax

Table 4-2. Brook trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Armstrong	ARM BKT	L	S	----	Rome SFH x Wild, NC	Domestic	----	2	5,6
Assinica	Assinica (ME)	Y	S	A	Brandon Park, NY via James Bay Area Quebec	Captive	----	----	3,4,10
Assinica	Assinica (MI)	Y	S	A	Phillips SFH	Domestic	647	3	1,2,3,4,5,6
Beitey	Beitey (WA)	U	P	----	Unknown	Domestic	----	----	----
Bellefonte	Oswego (GA)	L	S	----	Oswego NFH	Domestic	500	----	5,6
Bellefonte	Oswego (PA)	N	P	----	PL Mount & Benner Springs	Domestic	----	----	5,6
Coaster - Tobin Harbor	WST(HIF)	L	F	----	Lake Superior, Isle Royal, and Tobin Harbor	Wild	46	4	----
Coolridge Creek	Coolridge Creek - W	Y	S	B-BR	Coolridge Creek and Spring Brook Creek (MN)	Wild	124	----	7,9
Edray	Edray (WV)	L	S	----	Edray, WV	Unknown	600	----	5
Fernwood	Fernwood - D	N	P	----	Fernwood Trout Hatchery	Domestic	----	----	5,6
Gilbert	Gilbert (NH)	Y	S	IPNV	Gilbert CFH, Plymouth, MA	Domestic	----	----	4,5
Greenspring	Strohm	L	P	----	Green Spring (Thomas 1946)	Domestic	80	----	3,4,
Hackettstown	Reed Creek	Y	S	----	----	Unknown	----	----	5,6
Henrys Lake	Henrys Lake (ID)	L	S	----	Henry's Lake SFH	Domestic	400	----	4,7,8,9,10

Table 4-2. Brook trout - Continued.

Strain	Broodstock endation ^{6/}	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type ^{4/} N _e	Estim- ated ation ^{6/}	Genetic analysis ^{5/}	Management recommen-
Horn Lake	Horn Lake (W)	L	S	----	----	Wild	----	----	3,4,7,8,9,10
Iron River	Iron River (MI)	Y	S	A	Iron River, Iron Co., Michigan	Wild	----	----	3,4
Kennebago	Phillips- Kennebago (ME)	L	S	A	Kennebago Lakes	Wild	192	3	4,6,8,9
Kettle Morain	Kettle Morain (WI)	Y	P	----	Kettle Morain Hatchery	Domestic	----	----	----
Laurel Hill	Laurel Hill (PA)	Y	P	----	Various commerical hatcheries	Domestic	----	----	----
Little Tupper Lake	Little Tupper Lake - W	L	S	----	Little Tupper Lake (New York)	Wild	40	----	3,4,7,8,9,10
Marlette	Marlette (NV)	N	S	----	Marlette Lake , CA	Wild	----	----	----
Nashua	Nashua (CT)	Y	S	B-BF	----	Unknown	----	----	1,5,6,9
Nashua	Paint Bank	L	S	A	North Attleboro	Unknown	34	----	5,6
Nashua	Pequest	L	S	A	Attleboro NHF	Domestic	2500	----	1,2,5,
Nipigon Lake	Nipigon Lake (CAN)	N	C	----	Nipigon Lake, Canada	Wild	----	----	----
Nipigon Lake	Nipigon Lake - D	Y	T	RS	Dorian Fish Culture Station, ONT	Wild	----	----	All
Oswayo	Reynoldsdale (PA)	N	S	----	----	Domestic	----	----	3,4,5,6,9
Owhi	BKOW	L	S	----	Crawford NFH, Crawford, NE	Domestic	----	----	1,5,6,9
Owhi	Ford	L	S	----	Owhi Lake - Colville Indian Reservation. Washington St.	Wild	3000	----	3,4,5,6

Table 4-2. Brook trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Owhi	Owhi (NV)	N	S	----	Eagan Hatchery-Utah	Wild	----	----	3,4
Paint Bank	St. Croix Falls	L	S	A	Nashua, New Hampshire (Paint Bank Strain)	Domestic	----	----	4,5,6
Paradise	Maine - Dry Mills	Y	S	A	PA Fish and Boat Commission (Paradise Valley, PA) via Phillips SFH	Domestic	----	----	1,5,6
Paradise	Maine - Phillips	N	S	A	Paradise PA	Domestic	189	----	5,6
Pisgah	Pisgah (NC)	L	S	----	Davidson River, NC	Wild	----	1	5,6
Rome	Rome (CT)	Y	S	B-BF	White Sulfur Springs NFH	Unknown	----	----	----
Rome	Rome (NH)	Y	S	IPNV	Rome SFH	Domestic	----	----	5
Rome	Salisbury	----	S	----	Salisbury SFH (VT)	Domestic	----	----	----
Sandwich	Sandwich (MA)	L	S	----	Montague MA & various Field sites	Unknown	----	----	----
Shy Beaver	Fernwood	Y	P	----	Shy Beaver Trout hatchery	Domestic	200	----	3,6
Soda Lake	Soda Lake (WY)	Y	S	AS	Shoshone Lake, WY	Wild	----	1	1,3,4,6
Sourdnhunk	Phillips Sourdnhunk (ME)	N	S	A	Sourdnhunk Lake	Wild	220	3	4,6,8,9
Spring Creek	Spring Creek (MT)	L	P	----	Augusta Maine, Dept. of Interior	Domestic	666	----	----
Spring Creek	Spring Creek (MT2)	----	P	----	Artesian Well Water	Unknown	----	----	----

Table 4-2. Brook trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
St. Croix Falls	St. Croix Falls (IA)	L	S	----	St. Croix Falls , Wisconsin	Domestic	----	----	1,2,3,5,8,10
St. Croix Falls	St. Croix Falls (MN)	L	S	----	St. Croix Falls SFH (WI IDNR)	Domestic	----	----	2,3,5
Temiscamie	Temiscamie (MI)	Y	S	A	Brandon Enterprises, NY	Captive	55	3	----
Temiscamie	Temiscamie (NY)	L	P	----	Temiscamie River	Wild	----	----	3,4,5,6,7,8,9
West Virginia	San Joaquin (CA)	Y	S	----	Edray Trout Hatchery, WV	Unknown	----	----	1
West Virginia	West Virginia (H)	Y	P	----	Sugar Grove Trout Farm,	Domestic	----	----	----
White Sulfur Springs	Owhi	Y	S	AS	Roxbury SFH	Domestic	1256	----	4
Whitney	Crystal Lake (CA)	N	S	----	Crystal Lake SFH (Cassel, CA)	Domestic	----	----	5,6
Windfall	Windfall (NY)	----	S	----	Windfall - Wild stock	Wild	----	----	----

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - Aeromonas salmonicida (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis virus*; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis Virus*; OMV - *Oncorhynchus masou virus*; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 4-3. Brook trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	
Armstrong	ARM BKT	1001	1130	Mean No.	323.00 2	6.00 2	87 2	3.0 2	3.0 2	3.0 2
Assinica	Assinica (ME)	1101	1231	Mean No.	1273.00 2	7.95 2	94 2	3.0 2	3.5 2	3.5 2
Assinica	Assinica (MI)	1001	1031	Mean No.	431.50 2	18.15 2	89 2	3.5 2	3.0 2	3.0 2
Bellefonte	Oswego (GA)	1001	113	Mean No.	300.00 1	12.00 1	50 1	3.0 1	3.0 1	3.0 1
Bellefonte	Oswego (PA)	901	1031	Mean No.	---- 0	4.00 1	---- 0	3.0 1	3.0 1	3.0 1
Coaster - Tobin Harbor	WST(HIF)	1001	1215	Mean No.	---- 0	---- 0	---- 0	---- 0	---- 0	---- 0
Coolridge Creek	Coolridge Creek - W	1120	110	Mean No.	600.00 1	6.00 1	---- 0	3.0 0	3.0 1	---- 0
Edray	Edray (WV)	1001	1130	Mean No.	599.00 1	3.20 1	79 1	4.0 1	3.0 1	3.0 1
Gilbert	Gilbert (NH)	1001	1130	Mean No.	545.00 1	12.00 1	95 1	5.0 1	5.0 1	4.0 1
Greenspring	Strohm	901	1031	Mean No.	---- 0	---- 0	90 1	4.0 1	5.0 1	5.0 1
Hackettstown	Reed Creek	1001	1031	Mean No.	161.00 1	3.20 1	98 1	3.0 1	2.0 1	3.0 1

Table 4-3. Brook trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			Trans- por- tation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		Crowd -ing	
								swim-up	1-year		
Henry's Lake	Henry's Lake (ID)	1001	1031	Mean No.	149.00 1	----	75 1	4.0 1	4.0 1	4.0 1	4.0 1
Horn Lake	Horn Lake (W)	1101	----	Mean No.	339.00 1	15.10 1	61 1	3.0 1	3.0 1	4.0 1	3.0 1
Iron River	Iron River (MI)	1201	131	Mean No.	420.00 1	20.00 1	95 1	4.0 1	4.0 1	3.0 1	3.0 1
Kennebago	Phillips-Kennebago (ME)	1001	1031	Mean No.	407.00 1	13.60 1	99 1	5.0 1	4.0 1	----	0 0
Kettle Morain	Kettle Morain (WI)	1001	1031	Mean No.	----	----	----	----	----	----	----
Laurel Hill	Laurel Hill (PA)	1001	1130	Mean No.	----	----	----	4.0 1	4.0 1	5.0 1	5.0 1
Little Tupper Lake	Little Tupper Lake - W	1030	1115	Mean No.	515.00 1	15.10 1	51 1	3.0 1	3.0 1	4.0 1	3.0 1
Nashua	Nashua (CT)	815	1115	Mean No.	239.00 1	7.80 1	85 1	3.0 1	3.0 1	3.0 1	----
Nashua	Paint Bank	901	1031	Mean No.	200.00 1	3.50 1	90 1	3.0 1	3.0 1	4.0 1	3.0 1
Nashua	Pequest	901	1031	Mean No.	414.00 1	3.70 1	60 1	3.0 1	3.0 1	3.0 1	3.0 1
Nipigon Lake	Nipigon Lake - D	1001	115	Mean No.	----	30.00 1	85 1	3.0 1	3.0 1	1.0 1	3.0 1

Table 4-3. Brook trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		Crowd- ing	Trans- por- tation
								swim-up	1-year		
Oswayo	Reynoldsdale (PA)	801	1031	Mean No.	156.00 1	5.00 1	96 1	4.0 1	5.0 1	5.0 1	
Owhi	BKOW	1001	131	Mean No.	166.33 3	8.00 2	90 3	3.3 3	3.0 3	2.6 3	
Owhi	Ford	1001	1130	Mean No.	285.00 1	15.00 1	98 1	2.0 1	2.0 1	2.0 1	
Owhi	Owhi (NV)	1101	1231	Mean No.	----- 0	----- 0	----- 0	----- 0	----- 0	----- 0	
Paint Bank	St. Croix Falls	901	1031	Mean No.	1550.00 1	10.00 1	97 1	3.0 1	4.0 1	4.0 1	
Paradise	Maine - Dry Mills	1027	1201	Mean No.	330.00 1	4.20 1	88 1	4.0 1	4.0 1	4.0 1	
Paradise	Maine - Phillips	1101	1130	Mean No.	313.00 1	4.40 1	90 1	4.0 1	4.0 1	3.0 1	
Pisgah	Pisgah (NC)	1001	1130	Mean No.	319.50 2	4.75 2	88 2	3.5 2	2.5 2	3.0 2	
Rome	Rome (NH)	1001	1231	Mean No.	400.00 1	4.00 1	93 1	5.0 1	5.0 1	4.0 1	
Rome	Rome (NY)	----	----	Mean No.	154.00 1	4.50 1	80 1	2.0 1	1.0 1	2.0 1	
Shy Beaver	Fernwood	1001	1130	Mean No.	300.00 1	12.00 1	----- 0	5.0 1	5.0 1	5.0 1	

Table 4-3. Brook trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	1-year -ing
Soda Lake	Soda Lake (WY)	1001	1130	Mean No.	186.00 2	10.00 1	90 2	3.5 2	3.5 2	4.0 2
Sourdnahunk	Phillips Sourdnahunk (ME)	1101	1130	Mean No.	944.00 1	44.00 1	99 1	5.0 1	4.0 1	0 0
Spring Creek	Spring Creek (MT)	1001	1231	Mean No.	0 0	0 0	85 1	5.0 1	0 0	5.0 1
St. Croix Falls	St. Croix Falls (IA)	1001	1028	Mean No.	160.00 1	2.00 1	77 1	4.0 1	4.0 1	4.0 1
St. Croix Falls	St. Croix Falls (MN)	1020	1231	Mean No.	0 0	0 0	0 0	0 0	0 0	0 0
Temiscamie	Temiscamie (MI)	1001	1231	Mean No.	280.00 1	20.00 1	95 1	3.0 1	3.0 1	2.0 1
Temiscamie	Temiscamie (NY)	1001	1130	Mean No.	900.00 1	0 0	99 1	3.0 1	1.0 1	4.0 1
West Virginia	San Joaquin (CA)	1001	1215	Mean No.	0 0	1.60 1	0 0	3.0 1	3.0 1	2.0 1
West Virginia	West Virginia (H)	1001	1130	Mean No.	90.00 1	1.00 1	95 1	5.0 1	5.0 1	4.0 1
White Sulfur Springs	Owhi	1101	1130	Mean No.	0 0	0 0	93 1	3.0 1	3.0 1	3.0 1

Table 4-3. Brook trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	Crowd 1-year -ing ortation

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 4-4. Brook trout – Disease resistance rating (relative ratings^{1/}) of reported broodstocks for nine common salmonid diseases.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Armstrong	ARM BKT	Mean No. 3.0 2	---	3.0 2	---	3.0 2	---	---	3.0 2	---
Assinica	Assinica (ME)	Mean No. --- 0	---	---	---	---	---	---	---	---
Assinica	Assinica (MI)	Mean No. 4.0 1	---	---	---	---	---	---	1.0 1	---
Beitey	Beitey (WA)	Mean No. --- 0	---	---	---	---	---	---	---	---
Bellefonte	Oswego (GA)	Mean No. 3.0 2	3.5 2	3.0 2	---	3.5 2	---	---	---	2.0 1
Bellefonte	Oswego (PA)	Mean No. 4.0 2	2.5 2	---	---	2.5 2	---	---	3.0 2	---
Coaster - Tobin Harbor	WST(HIF)	Mean No. --- 0	---	---	---	---	---	---	---	---
Coolridge Creek	Coolridge Creek - W	Mean No. --- 0	---	---	---	---	---	---	3.0 1	---
Edray	Edray (WV)	Mean No. 5.0 1	---	2.0 1	---	5.0 1	---	---	3.0 1	---
Fernwood	Fernwood - D	Mean No. 4.0 1	---	---	---	5.0 1	---	---	2.0 1	---
Gilbert	Gilbert (NH)	Mean No. 2.0 1	3.0 1	---	---	5.0 1	---	---	4.0 1	3.0 1

Table 4-4. Brook trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Greenspring	Strohm	Mean No. 3.0 1	---	---	---	4.0 1	---	---	3.0 1	3.0 1
Hackettstown	Reed Creek	Mean No. 2.0 1	---	---	---	3.0 1	---	---	2.0 1	---
Henrys Lake	Henrys Lake (ID)	Mean No. 2.0 1	2.0 1	2.0 1	2.0 1	2.0 1	---	3.0 2	2.5 2	2.5 2
Horn Lake	Horn Lake (W)	Mean No. --- 0	---	---	---	---	---	---	3.0 1	---
Iron River	Iron River (MI)	Mean No. 4.0 1	---	---	---	---	---	---	4.0 1	---
Kennebago	Phillips-Kennebago (ME)	Mean No. --- 0	---	---	---	---	---	---	---	---
Laurel Hill	Laurel Hill (PA)	Mean No. 3.0 1	3.0 1	---	---	---	---	---	3.0 1	3.0 1
Little Tupper Lake	Little Tupper Lake - W	Mean No. --- 0	---	---	---	---	---	---	3.0 1	---
Marlette	Marlette (NV)	Mean No. --- 0	4.0 1	---	---	---	---	---	3.0 1	---
Nashua	Nashua (CT)	Mean No. --- 0	---	---	---	---	---	---	3.0 1	---
Nashua	Paint Bank	Mean No. --- 0	---	---	---	---	---	---	3.0 2	3.0 1

Table 4-4. Brook trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Nashua	Pequest	Mean No.	---	---	---	---	---	---	3.0 1	3.0 1
Nipigon Lake	Nipigon Lake (CAN)	Mean No.	---	---	---	---	---	---	4.0 1	---
Nipigon Lake	Nipigon Lake - D	Mean No.	3.0 1	---	---	---	---	---	2.0 1	3.0 1
Oswayo	Reynoldsdale (PA)	Mean No.	3.0 2	3.5 2	5.0 1	2.5 2	5.0 1	5.0 1	2.0 2	4.0 1
Owhi	BKOW	Mean No.	3.6 5	3.2 4	3.0 3	3.0 3	3.0 3	3.0 3	3.3 8	---
Owhi	Ford	Mean No.	3.5 2	3.0 2	3.5 2	---	---	3.0 1	3.5 2	---
Owhi	Owhi (NV)	Mean No.	---	---	---	---	---	---	---	---
Paint Bank	St. Croix Falls	Mean No.	2.1 6	3.0 1	3.0 3	---	---	---	2.8 7	4.0 1
Paradise	Maine - Dry Mills	Mean No.	---	---	---	---	---	---	---	---
Paradise	Maine - Phillips	Mean No.	---	---	---	---	---	---	---	---
Pisgah	Pisgah (NC)	Mean No.	3.5 2	---	3.0 2	---	---	---	3.0 1	---

Table 4-4. Brook trout – Continued.

Strain	Broodstock	Salmonid diseases ²⁾								
		1	2	3	4	5	6	7	8	9
Rome	Rome (CT)	Mean No.	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Rome	Rome (NH)	Mean No.	5.0 1	1.0 1	— 0	5.0 1	— 0	— 0	4.0 1	4.0 1
Rome	Rome (NY)	Mean No.	1.0 1	4.0 1	— 0	3.0 1	— 0	— 0	5.0 1	— 0
Sandwich	Sandwich (MA)	Mean No.	2.0 1	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Shy Beaver	Fernwood	Mean No.	4.0 1	5.0 1	— 0	2.0 1	— 0	— 0	2.0 1	5.0 1
Soda Lake	Soda Lake (WY)	Mean No.	3.5 2	5.0 1	— 0	— 0	— 0	— 0	3.0 2	— 0
Sourdnhunk	Phillips Sourdnhunk (ME)	Mean No.	— 0	— 0	— 0	— 0	— 0	— 0	— 0	2.0 1
Spring Creek	Spring Creek (MT)	Mean No.	— 0	— 0	4.0 1	— 0	— 0	— 0	5.0 1	— 0
St. Croix Falls	St. Croix Falls (IA)	Mean No.	2.0 1	— 0	— 0	— 0	— 0	— 0	3.0 1	— 0
St. Croix Falls	St. Croix Falls (MN)	Mean No.	2.0 1	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Temiscamie	Temiscamie	Mean No.	5.0 1	— 0	— 0	— 0	— 0	— 0	4.0 1	— 0

Table 4-4. Brook trout - Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Temiscamie	Temiscamie (MI)	Mean No.	2.0 1	2.0 1	---	---	---	---	1.0 1	---
Temiscamie	Temiscamie (NY)	Mean No.	4.0 1	---	---	---	---	---	3.0 1	---
West Virginia	San Joaquin (CA)	Mean No.	1.0 1	---	---	---	---	---	---	---
West Virginia	West Virginia (H)	Mean No.	3.0 1	---	---	---	---	---	3.0 1	---
White Sulfur Springs	Owhi	Mean No.	1.0 1	---	---	---	---	---	3.0 1	3.0 1
Whitney	Crystal Lake (CA)	Mean No.	2.0 1	2.5 2	2.0 1	3.5 2	---	---	3.3 3	3.0 1

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yerinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 4-5. Brook trout – Eight selected post-stocking field performance traits (relative ratings^{1/}) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to								
		Survival					Growth					Angling suscep- tibility	Tendency to migrate			Temper- ature > 70 °C	pH < 5.0			Catch & release
		90 days					Over-winter						R	L	R		L	R	L	
		R	L	R	L	R	L	R	L	R	L									
Armstrong	ARM BKT	Mean No.	3.0 2	0 0	2.0 1	0 0	3.0 1	0 0	4.5 2	0 0	3.0 2	0 0	3.0 2	0 0	4.0 2	0 0	3.5 2	0 0	4.0 1	0 0
Assinica	Assinica (MI)	Mean No.	3.5 2	0 0	2.5 2	0 0	3.0 2	0 0	3.0 2	0 0	3.0 2	0 0	3.0 2	0 0	3.5 2	0 0	3.5 2	0 0	0 0	0 0
Bellefonte	Oswego (GA)	Mean No.	3.0 2	0 0	2.0 1	0 0	2.5 2	0 0	3.5 2	0 0	3.0 1	0 0	3.0 1	0 0	2.0 1	0 0	0 0	0 0	0 0	0 0
Bellefonte	Oswego (PA)	Mean No.	4.0 1	0 0	1.0 1	0 0	2.0 1	0 0	4.0 1	0 0	4.0 1	0 0	0 0	0 0	1.0 1	0 0	0 0	0 0	0 0	0 0
Edray	Edray (WV)	Mean No.	1.0 1	0 0	0 0	0 0	1.0 1	0 0	4.0 1	0 0	4.0 1	0 0	4.0 1	0 0	3.0 1	0 0	3.0 1	0 0	0 0	0 0
Fernwood	Fernwood - D	Mean No.	0 0	0 0	2.0 1	0 0	0 0	0 0	4.0 1	0 0	4.0 1	0 0	0 0	0 0	1.0 1	0 0	4.0 1	0 0	0 0	0 0
Gilbert	Gilbert (NH)	Mean No.	0 0	0 0	2.0 1	0 0	0 0	0 0	4.0 1	0 0	4.0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Greenspring	Strohlm	Mean No.	5.0 1	0 0	5.0 1	0 0	4.0 1	0 0	5.0 1	0 0	3.0 1	0 0	3.0 1	0 0	3.0 1	0 0	3.0 1	0 0	5.0 1	0 0
Hackettstown	Reed Creek	Mean No.	0 0	0 0	0 0	0 0	0 0	0 0	5.0 1	0 0	5.0 1	0 0	0 0	0 0	1.0 1	0 0	3.0 1	0 0	3.0 1	0 0

Table 4-5. Brook trout – Continued.

Strain	Broodstock	Post stocking										Tolerance to							
		Survival					Growth					Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release			
		90 days					Over-winter												
		R	L	R	L	R	L	R	L	R	L							R	L
Henrys Lake	Henrys Lake (ID)	Mean No.	3.0 2	4.0 1	3.5 2	4.0 1	4.0 1	3.5 2	4.0 1	3.0 2	4.0 1	3.0 2	4.0 1	4.0 2	4.0 1	3.0 1	3.0 1	4.0 1	4.0 1
Horn Lake	Horn Lake (W)	Mean No.	5.0 1	— 0	4.0 1	— 0	4.0 1	— 0	4.0 1	3.0 1	— 0	4.0 1	— 0	3.0 1	— 0	3.0 1	— 0	— 0	— 0
Iron River	Iron River (MI)	Mean No.	4.0 1	— 0	2.0 1	— 0	4.0 1	— 0	4.0 1	3.0 1	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Little Tupper Lake	Little Tupper Lake - W	Mean No.	5.0 1	— 0	5.0 1	— 0	5.0 1	— 0	5.0 1	5.0 1	— 0	4.0 1	— 0	3.0 1	— 0	3.0 1	— 0	— 0	— 0
Nashua	Nashua (CT)	Mean No.	3.0 1	— 0	— 0	— 0	— 0	— 0	— 0	3.0 1	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Nashua	Paint Bank	Mean No.	4.0 2	— 0	1.0 2	— 0	— 0	— 0	— 0	4.5 2	— 0	— 0	— 0	1.0 2	— 0	— 0	— 0	— 0	— 0
Nashua	Pequest	Mean No.	— 0	— 0	— 0	— 0	— 0	— 0	— 0	4.0 1	— 0	— 0	— 0	3.0 1	— 0	4.0 1	— 0	— 0	— 0
Nipigon Lake	Nipigon Lake - D	Mean No.	— 0	— 0	4.0 1	4.0 1	— 0	— 0	— 0	4.0 1	4.0 1	— 0	— 0	1.0 1	1.0 1	— 0	— 0	— 0	— 0
Owhi	BKOW	Mean No.	4.0 1	— 0	4.0 1	— 0	4.0 1	— 0	4.0 1	3.0 1	— 0	4.0 1	— 0	2.0 1	— 0	— 0	— 0	3.0 1	— 0
Owhi	Ford	Mean No.	3.0 1	— 0	3.0 1	— 0	3.0 1	— 0	3.0 1	4.0 1	— 0	3.0 1	— 0	— 0	— 0	— 0	— 0	— 0	— 0

Table 4-5. Brook trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to					
		Survival			Growth			Angling suscep-			Tendency		
		90 days			Over-winter			tibility			to migrate		
		R	L	---	R	L	---	R	L	---	R	L	---
Whitney	Crystal Lake (CA)	Mean	1.0	---	3.0	---	3.0	---	3.0	---	---	---	---
		No.	1	0	1	0	1	0	1	0	0	0	0

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 5-1. Brown trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Armstrong	Armstrong (NC)	Kyle Briggs	NC WRC, Armstrong Fish Hatchery, 3336 Armstrong Creek Road, Marion, NC 28752	Ph. 828-756-4179 Fax 828-756-0066
Bellefonte / Rome	Reynoldsdale (PA)	Patrick Ferko	PA F&B Commission, Reynoldsdale FCS, 162 Fish Hatchery Road, New Paris, PA 15554	Ph. 814-839-2211 Fax 814-839-4911
Bitterroot	Bitterroot (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road, P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Cortland	Cortland (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Crawford	Paint Bank	Charles Stephens	Paint Bank FCS, Route 1, Box 12, Paint Bank, VA 24131-9702	Ph. 540-897-5401 Fax 540-897-5402
Crystal Lake	New Gloucester (ME)	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Delaney Butte	Delaney Butte (CO)	Tom Mandis	Bellevue Fish Research Hatchery, Box 96, Bellvue, CO 80512	Ph. 970-482-1141 Fax 970-224-0366
Europe	St. Croix	Jeff Tabat	WDNR, St. Croix Falls SFH, P.O. Box 397, St. Croix Falls, WI 54024	Ph. 715-483-3535 Fax
Gilchrist Creek	Gilchrist	Edward Eisch	MI DNR, Oden SFH, P. O. Box 337, Oden, MI 49764	Ph. 231-347-4689 Fax 231-347-8421
Green Spring	Green Lake	Charles Finui	Green Springs Trout Farm, 1129 Shaffer Run Road, Somerset, PA 15501	Ph. 814-445-5427 Fax
Hybrid	Walhalla X Plymouth Rock	David Marolf	Manchester SFH, 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
Laurel Hill	Laurel Hill (PA)	Jim Blasko	Laurel Hill Trout Farm, RD 1 Box 135, Osterburg, PA 16667	Ph. 814-276-3993 Fax

Table 5-1. Brown trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Leetown	Reeds Creek	David Alt	Reeds Creed SFH, RT 1, Box 78-A, Franklin, WV 26807	Ph. 304-358-2595 Fax
Lock Leven	Green Spring (PA)	Charles Finui	Green Springs Trout Farm, 1129 Shaffer Run Road, Somerset, PA 15501	Ph. 814-445-5427 Fax
Nashua	Pequest	Kurt Powers	NJDF&W, Pequest SFH, 605 Pequest Road, Oxford, NJ 07863	Ph. 908-637-4173 Fax 908-637-6735
Plymouth Rock	Plymouth Rock (IA)	David Marolf	Manchester SFH, 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
Plymouth Rock	Plymouth Rock (MI)	Edward Eisch	MI DNR, Oden SFH, P. O. Box 337, Oden, MI 49764	Ph. 231-347-4689 Fax 231-347-8421
Plymouth Rock	Plymouth Rock (NH)	Todd Turner	Genoa NFH, Route 6, Box 186 or Rt.1 (please correct), Genoa, WI 54632	Ph. 608-689-2605 Fax 608-689-2644
Plymouth Rock	Plymouth Rock (NY)	Edwin Stork	MN DNR, Lanesboro SFH, Route 2, Box 85, Lanesboro, MN 55949	Ph. 507-467-3771 Fax 507-467-3416
Plymouth Rock	Plymouth Rock (WSS)	Dean Rhine	USFWS, White Sulfur Springs NFH, 400 E. Maine Street, White Sulphur, WV 24986	Ph. 304-536-1361 Fax 304-536-4634
Plymouth Rock	Saratoga - PLR	Ed Stege	USFWS, Saratoga NFH, P.O. Box 665, Saratoga, WY 82331-0665	Ph. 307-326-5662 Fax 307-326-9869
Rome	Rome (CT)	George Stack	Paradise Brook Trout Co., Rd 1 box 353, Henryville, PA 18332	Ph. 717-629-0422 Fax
Rome	Rome (MD)	Ray Richardson	Lewistown SFH, 1093 Putman Road, Thurmont, MD 21788	Ph. 301-898-3691 Fax
Rome	Rome (NH)	Jay Hendee	NH Fish & Game Dept., Region 2, PO Box 417, New Hampton, NH 03256	Ph. 603-744-5470 Fax 603-744-6302

Table 5-1. Brown trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Rome	Rome (PA) 1	Kenneth Slogaski	Tylersville FCS, RD 2, Box 173, Loganton, PA 17747	Ph. 717-725-3965 Fax
Rome	Rome (PA) 1	Kenneth Slogaski	Tylersville FCS, RD 2, Box 173, Loganton, PA 17747	Ph. 717-725-3965 Fax
Rome	Rome (PA) 2	Paul Drumm	Huntsdale FCS, 195 Lebo Road, Carlisle, PA 17013	Ph. 717-486-3419 Fax 717-486-4040
Rome	Rome (VT)	Tom Dumont	Salisbury FCS, RD 1, Box 218, Salisbury, VT 05769	Ph. 802-352-4371 Fax
Rome	Walhalla - Ro	Andrew Allgood	SCDNR, Walhalla SFH, 198 Fish Hatchery Road, Mountain Rest, SC 29664-9003	Ph. 864-638-2866 Fax 864-638-2154
Sandwich	Sandwich (MA)	Ken Simmons	MA Division Fish & Wildlife, Field Building, Westoboro, MA 01581	Ph. 508-792-7270 Fax
Seeforellen	Seeforellen (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Seeforellen	Seeforellen (MI)	Edward Eisch	MI DNR, Oden SFH, P. O. Box 337, Oden, MI 49764	Ph. 231-347-4689 Fax 231-347-8421
Seeforellen	Seeforellen (NY)	Alan Mack	Caledonia SFH, 16 North Street, Caledonia, NY 14423-1033	Ph. 716-538-6300 Fax 716-538-9293
Shasta	Ford (WA)	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
Shasta	Shasta (CA)	Dennis Redfern	CA Dept Fish and Game, American River SFH, 2101 Nimbus Road, Rancho Cordova, CA 95670	Ph. 916-358-2865 Fax 916-358-1435
Sheep Creek	BNSC	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547

Table 5-1. Brown trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Sheep Creek	Lake Taneycomo	James Cilello	MO DOC, Shepard of the Hills SFH, 633 Hatchery Road, Branson, MO 65616	Ph. 417-348-1305 Fax 417-334-4996
Sheep Creek	Sheep Creek (NV)	Wayne Pachal	NHF&G, Berlin SFH, RR 3, Box 378d, Berlin, NH 03570	Ph. 603-449-3412 Fax
Soda Lake	Soda Lake (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Spring Creek	Little Red River	John Stark	AR State Trout, 457 Surrey Lane, Lakeview, AR 72642	Ph. 501-424-5924 Fax 501-424-5924
Spring Creek	Spring Creek (MT)	Anthony Nowak	Spring Creek Trout Hatchery, Route # 1, Box 1600, Lewistown, MT 59457	Ph. 406-538-3538 Fax 406-538-2401
Star Valley Trout Ranch	Brown	Robert Little	Durango SFH, 151 East 16th St., Durango, CO 81301	Ph. 970-247-4755 Fax
Walhalla	Pisgah (NC)	John Murry	Pisgah Forest SFH, PO Box 728, Pisgah Forest, NC 28768	Ph. 704-877-3121 Fax
Walhalla	Walhalla (GA)	Bill Couch	GA WRD, Buford SFH, 3204 Trout Place, Cumming, GA 30041	Ph. 770-781-6888 Fax 770-781-6889
White River	White River (AR)	John Stark	AR State Trout, 457 Surrey Lane, Lakeview, AR 72642	Ph. 501-424-5924 Fax 501-424-5924
Wild Rose	Wild Rose (MI) 1	James Johnson	MI MNR, Alpena Fisheries Station, 160 E. Fletcher, Alpena, MI 49707-2344	Ph. 989-356-3232 Fax 989-356-1951
Wild Rose	Wild Rose (MI) 1	Edward Eisch	MI DNR, Oden SFH, P. O. Box 337, Oden, MI 49764	Ph. 231-347-4689 Fax 231-347-8421

Table 5-2. Brown trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Availability ¹⁾	Type of facility ²⁾	Disease Status ³⁾	Origin	Broodstock type	Estimated N _e ⁴⁾	Genetic analysis ⁵⁾	Management recommendation ⁶⁾
Armstrong	Armstrong (NC)	N	S	----	Walhalla NFH	Domestic	----	1	5,6
Bellefont / Rome	Reynoldsdale (PA)	N	S	----	----	Domestic	----	----	3,4,5,6
Bitterroot	Bitterroot (CT)	Y	S	IPNV	Quinebaug Valley Trout Hatchery	Domestic	30	----	3,4
Cortland	Cortland (CT)	Y	S	B-BF	Cortland NFH	Unknown	----	----	1,5,6
Crawford	Paint Bank	L	S	A	Soda Lake, Wyoming	Unknown	25	----	3,4,5,6,7,8,9,10
Crystal Lake	New Gloucester (ME)	Y	S	A	Crystal, Sabbathary, and Hancock Lakes	Wild	12	----	4,6
Delaney Butte	Delaney Butte (CO)	N	S	----	Delaney Butte, CO	Wild	----	----	3,5
Europe	St. Croix	L	S	A	Europe late 1800's to Nevin hatchery WI, to Wild Rose Hatchery	Domestic	----	----	1,4,5,6
Gilchrist Creek	Gilchrist	L	S	----	Gilchrist Creek	Wild	180	----	----
Green Spring	Green Lake	N	P	----	Green Springs Trout Farms (Thomas 1946)	Domestic	80	----	3,4,5,6
Hybrid	Walhalla X Plymouth Rock	L	S	----	S. Carolina and Nebraska	Domestic	----	----	5,6
Laurel Hill	Laurel Hill (PA)	Y	P	----	Various commercial Hatcheries	Domestic	----	----	----
Leetown	Reeds Creek	Y	S	----	----	Unknown	----	----	5,6
Lock Leven	Green Spring (PA)	N	P	----	Green Spring Thomas - 1946)	Domestic	40	----	3,4,5,6

Table 5-2. Brown trout - Continued.

Strain	Broodstock	Avail- Ability ¹⁾	Type of facility ²⁾	Disease Status ³⁾	Origin	Broodstock type	Estim- ated N _e ⁴⁾	Genetic analysis ⁵⁾	Management recommend- ation ⁶⁾
Nashua	Pequest	L	S	A	Attleboro NFH	Domestic	2500	—	1,2,4,10
Plymouth Rock	Plymouth Rock (IA)	N	S	—	Saratoga NFH	Unknown	—	—	—
Plymouth Rock	Plymouth Rock (MI)	N	S	—	—	Unknown	—	—	4
Plymouth Rock	Plymouth Rock (NH)	Y	F	—	Saratoga NFH	Domestic	—	—	5,6
Plymouth Rock	Plymouth Rock (NY)	L	S	RS	Peterson SFH	Domestic	814	—	3,4,10
Plymouth Rock	Plymouth Rock (WSS)	N	F	—	White Sulphur Springs NFH	Domestic	—	—	3,4,5,6,9
Plymouth Rock	Saratoga - PLR	Y	F	A	Domestic Crawford NFH, From Soda Lake	Domestic	276	1	3,4,5,10
Rome	Rome (CT)	Y	P	—	Rome, New York	Domestic	—	—	2,5,6
Rome	Rome (MD)	N	S	—	—	Unknown	—	—	5,6
Rome	Rome (NH)	Y	S	IPNV	Rome SFH	Domestic	—	—	4
Rome	Rome (PA) 1	Y	S	—	Rome, NY	Unknown	—	—	1,2,5,6
Rome	Rome (PA) 2	Y	S	—	Rome SFH	Domestic	—	—	—
Rome	Rome (VT)	Y	S	AS	Rome SFH	Domestic	1000	—	3,4
Rome	Walhalla - Ro	L	S	IPNV	Rome SFH	Domestic	—	—	5
Sandwich	Sandwich (MA)	L	S	—	Germany (details unknown)	Unknown	—	—	5

Table 5-2. Brown trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Seeforellen	Seeforellen (CT)	Y	S	AS	Oden SFH; Saugatuck Reservoir, CT Domestic ; East Twin Lake, CT; Burlington SFH was obtained from Catskill SFH.		130	----	----
Seeforellen	Seeforellen (MI)	Y	S	A	Caledonia NY	Domestic	781	----	4
Seeforellen	Seeforellen (NY)	L	S	AS	Germany (Walchensee Lake) eggs imported 1984, 85, & 86	Wild	14	----	4
Shasta	Ford (WA)	L	S	----	Mt. Shasta SFH	Domestic	----	----	3,4,5,6
Shasta	Shasta (CA)	N	S	----	Mt Shasta SFH (Mt Shasta, CA)	Domestic	----	----	5,6
Sheep Creek	BNSC	L	S	----	Sheep Creek, Flaming Gorge Reservoir (Utah)	Wild	----	----	3,5,7
Sheep Creek	Lake Taneycomo	L	S	RS, AS	Flaming Gorge Reservoir, Egan Hatchery Bicknell, UT	Domestic	----	----	5
Sheep Creek	Sheep Creek (NV)	N	S	----	J. Perry Eagan SFH	Domestic	----	----	3,4
Soda Lake	Soda Lake (WY)	Y	S	AS	Big Sandy Reservoir	Wild	----	1	1,3,4,5
Spring Creek	Little Red River	L	S	----	Spring Creek Hatchery - Lewistown, MT	Captive	----	----	7,9
Spring Creek	Spring Creek (MT)	Y	P	----	Unknown	Domestic	400	----	5,6
Star Valley Trout Ranch	Brown	L	S	----	Star Valley	Domestic	90	----	3,4
Walhalla	Pisgah (NC)	N	S	----	Pisgah Forest	Domestic	200	1	3,4,5,6

Table 5-2. Brown trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
Walhalla	Walhalla (GA)	L	S	----	Walhalla NFH	Domestic	500	----	3,5
White River	White River (AR)	L	S	----	----	Unknown	----	----	7,9
Wild Rose	Wild Rose (MI) 1	Y	S	A	Wild Rose, WI	Domestic	1150	----	----
Wild Rose	Wild Rose (MI) 1	N	S	----	Hunt Creek Research Station	Unknown	----	----	3,4,5,6

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - Aeromonas salmonicida (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - Ceratomyxa shasta; IPNV - Infectious Pancreatic Necrosis virus; VHSV - Viral Hemorrhagic Septicemia; IHNV - Infectious Hematopoietic Necrosis Virus; OMV - Oncorhynchus masou virus; YR - Yersinia ruckeri (Enteric Redmouth); B-SW - Myxobolus cerebralis (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m + N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 5-3. Brown trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d.	Tolerance to stress ^{1/}			Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		Crowd -ing	
								swim-up	1-year		
Armstrong	Armstrong (NC)	1001	1130	Mean No.	133.00 2	4.70 2	82 2	3.0 2	3.0 2	3.0 2	3.0 2
Bellefont / Rome	Reynoldsdale (PA)	801	1031	Mean No.	156.00 1	6.00 1	96 1	4.0 1	5.0 1	5.0 1	5.0 1
Bitterroot	Bitterroot (CT)	1101	131	Mean No.	455.00 1	20.00 1	90 1	5.0 1	5.0 1	5.0 1	4.0 1
Cortland	Cortland (CT)	815	1015	Mean No.	252.00 1	7.20 1	85 1	3.0 1	3.0 1	3.0 1	3.0 1
Crawford	Paint Bank	901	1031	Mean No.	194.00 3	4.33 3	92 3	2.6 3	2.6 3	3.0 3	3.0 3
Crystal Lake	New Gloucester (ME)	1001	1031	Mean No.	346.00 1	7.80 1	97 1	3.0 1	3.0 1	4.0 1	3.0 1
Europe	St. Croix	901	1031	Mean No.	727.00 1	9.40 1	97 1	3.0 1	4.0 1	4.0 1	3.0 1
Gilchrist Creek	Gilchrist	1101	131	Mean No.	631.00 1	13.80 1	80 1	3.0 1	3.0 1	3.0 1	3.0 1
Green Spring	Green Lake	801	1031	Mean No.	----	----	----	----	----	----	----
Hybrid	Walhalla X Plymouth Rock	1001	1231	Mean No.	----	----	62 1	3.0 1	3.0 1	4.0 1	4.0 1
Laurel Hill	Laurel Hill (PA)	1001	1130	Mean No.	----	----	----	4.0 1	4.0 1	4.0 1	4.0 1

Table 5-3. Brown trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	Crowd -ing
Leetown	Reeds Creek	1001	1031	Mean No.	229.00 1	4.20 1	98 1	3.0 1	3.0 1	3.0 1
Lock Leven	Green Spring (PA)	901	1031	Mean No.	200.00 1	1.00 1	90 1	3.0 1	4.0 1	3.0 1
Nashua	Pequest	901	1031	Mean No.	295.00 1	3.70 1	80 1	3.0 1	2.0 1	2.0 1
Plymouth Rock	Plymouth Rock (NH)	1001	1130	Mean No.	300.00 1	4.00 1	75 1	2.0 1	3.0 1	3.0 1
Plymouth Rock	Plymouth Rock (NY)	1001	1231	Mean No.	554.00 1	12.50 1	---- 0	5.0 1	5.0 1	3.0 1
Plymouth Rock	Plymouth Rock (WSS)	----	----	Mean No.	232.25 4	6.23 4	87 4	3.0 4	3.0 4	3.5 4
Plymouth Rock	Saratoga - PLR	901	1031	Mean No.	287.00 3	6.13 3	96 3	3.0 3	3.0 3	3.3 3
Rome	Rome (CT)	801	1001	Mean No.	900.00 1	5.00 1	80 1	3.0 1	3.0 1	3.0 1
Rome	Rome (MD)	----	----	Mean No.	500.00 1	3.00 1	90 1	3.0 1	3.0 1	3.0 1
Rome	Rome (NH)	1001	1130	Mean No.	600.00 1	4.50 1	93 1	5.0 1	4.0 1	4.0 1
Rome	Rome (NY)	----	----	Mean No.	100.00 1	4.00 1	90 1	3.0 1	3.0 1	3.0 1

Table 5-3. Brown trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling			
								swim-up	1-year	Crowd -ing	Transp- ortation
Rome	Rome (PA) 1	1001	1130	Mean No.	477.00 2	1.90 2	85 2	3.0 2	3.0 2	2.5 2	3.5 2
Rome	Rome (PA) 2	901	1130	Mean No.	---- 0	4.00 1	75 1	3.0 1	2.0 1	3.0 1	4.0 1
Rome	Rome (VT)	1101	1231	Mean No.	262.00 1	6.10 1	89 1	3.0 1	3.0 1	3.0 1	3.0 1
Rome	Walhalla - Ro	1001	1130	Mean No.	400.00 1	8.80 1	80 1	----	4.0 1	4.0 1	4.0 1
Seeforellen	Seeforellen (CT)	1101	1231	Mean No.	850.00 1	3.90 1	88 1	5.0 1	5.0 1	5.0 1	5.0 1
Seeforellen	Seeforellen (MI)	1101	131	Mean No.	334.00 1	13.00 1	97 1	3.0 1	3.0 1	3.0 1	3.0 1
Seeforellen	Seeforellen (NY)	1201	131	Mean No.	1711.50 2	9.35 2	92 2	2.0 2	2.5 2	3.0 2	3.5 2
Shasta	Ford (WA)	1001	1130	Mean No.	275.00 1	13.00 1	98 1	3.0 1	3.0 1	3.0 1	3.0 1
Sheep Creek	BNSC	1101	131	Mean No.	203.66 3	5.76 3	90 3	3.0 3	3.0 3	3.3 3	3.0 3
Sheep Creek	Lake Taneycomo	1001	1231	Mean No.	----	----	85 1	3.0 1	4.0 1	3.0 1	3.0 1
Sheep Creek	Sheep Creek (NV)	1001	1130	Mean No.	284.00 1	12.10 2	98 1	3.0 2	3.0 2	3.5 2	3.5 2

Table 5-3. Brown trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	1-year -ing
Soda Lake	Soda Lake (WY)	1001	1031	Mean No.	237.00 3	11.80 3	78 3	2.3 3	2.6 3	1.6 3
Spring Creek	Little Red River	901	1231	Mean No.	----	----	----	----	----	----
Spring Creek	Spring Creek (MT)	901	1031	Mean No.	----	----	85 1	4.0 1	5.0 1	3.0 1
Star Valley Trout Ranch	Brown	1101	1231	Mean No.	304.00 1	6.00 1	90 1	3.0 1	3.0 1	3.0 1
Walhalla	Pisgah (NC)	1001	1031	Mean No.	250.00 2	2.45 2	82 2	3.5 2	3.0 2	3.0 2
Walhalla	Walhalla (GA)	1101	1231	Mean No.	300.00 1	12.00 1	70 1	3.0 1	3.0 1	4.0 1
White River	White River (AR)	1101	1231	Mean No.	----	----	----	----	----	----
Wild Rose	Wild Rose (MI) 1	1001	1031	Mean No.	413.00 1	7.20 1	92 2	2.5 2	2.0 2	2.0 2

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 5-4. Brown trout – Disease resistance rating (relative ratings^{1/}) of reported broodstocks for nine common salmonid diseases.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Armstrong	Armstrong (NC)	Mean No. 3.0 2	---	3.0 2	---	3.0 2	---	---	3.0 2	---
Bellefont / Rome	Reynoldsdale (PA)	Mean No. 3.5 2	3.5 2	5.0 1	5.0 1	3.0 2	5.0 1	5.0 1	2.0 2	4.0 1
Bitterroot	Bitterroot (CT)	Mean No. ---	---	---	---	---	---	---	3.5 2	---
Cortland	Cortland (CT)	Mean No. ---	---	3.0 1	---	---	---	---	3.0 1	---
Crawford	Paint Bank	Mean No. ---	---	---	---	---	---	---	3.0 1	3.0 1
Crystal Lake	New Gloucester (ME)	Mean No. 3.0 1	3.0 2	3.0 1	3.0 1	2.5 2	3.0 1	3.0 1	3.0 1	3.0 1
Delaney Butte	Delaney Butte (CO)	Mean No. ---	---	---	---	---	---	---	---	---
Europe	St. Croix	Mean No. 2.0 1	2.0 1	3.0 1	---	---	---	---	4.0 1	2.0 1
Gilchrist Creek	Gilchrist	Mean No. ---	---	---	---	---	---	---	3.0 1	---
Hybrid	Walhalla X Plymouth Rock	Mean No. 3.0 1	3.0 1	---	---	---	---	---	3.0 1	---
Laurel Hill	Laurel Hill (PA)	Mean No. 2.0 1	3.0 1	---	---	---	---	---	3.0 1	3.0 1

Table 5-4. Brown trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Leetown	Reeds Creek	Mean No.	---	---	---	3.0 1	---	---	3.0 1	---
Lock Leven	Green Spring (PA)	Mean No.	3.0 1	---	---	---	---	---	3.0 1	3.0 1
Nashua	Pequest	Mean No.	---	---	---	---	---	---	4.0 1	---
Plymouth Rock	Plymouth Rock (NH)	Mean No.	3.0 1	4.0 1	---	---	---	---	3.0 1	3.0 1
Plymouth Rock	Plymouth Rock (NY)	Mean No.	---	3.0 1	4.0 1	---	---	---	3.0 1	3.0 1
Plymouth Rock	Plymouth Rock (WSS)	Mean No.	3.0 4	3.0 2	2.0 1	---	---	---	4.0 5	---
Plymouth Rock	Saratoga - PLR	Mean No.	3.0 4	4.0 2	4.0 1	---	---	---	3.4 7	4.0 2
Rome	Rome (CT)	Mean No.	5.0 1	---	---	---	---	---	3.0 1	3.0 1
Rome	Rome (MD)	Mean No.	2.5 2	---	---	---	---	---	2.0 1	---
Rome	Rome (NH)	Mean No.	5.0 1	3.0 1	---	---	---	---	4.0 1	5.0 1
Rome	Rome (NY)	Mean No.	2.6 3	2.5 2	---	---	---	---	2.6 3	---

Table 5-4. Brown trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Sheep Creek	BNSC	Mean No. 2.6 3	2.0 2	2.0 2	1.0 1	2.0 2	2.0 2	2.0 2	3.0 4	--- 0
Sheep Creek	Lake Taneycomo	Mean No. 3.0 2	3.0 2	--- 0	--- 0	--- 0	--- 0	--- 0	3.0 2	4.0 1
Sheep Creek	Sheep Creek (NV)	Mean No. --- 0	--- 0	--- 0	--- 0	--- 0	--- 0	--- 0	3.0 2	3.0 1
Soda Lake	Soda Lake (WY)	Mean No. 3.3 3	4.0 1	--- 0	--- 0	--- 0	--- 0	--- 0	2.6 3	4.0 1
Spring Creek	Spring Creek (MT)	Mean No. --- 0	--- 0	4.0 1	--- 0	--- 0	--- 0	--- 0	3.0 1	--- 0
Star Valley Trout Ranch	Brown	Mean No. 2.0 1	4.0 1	4.0 1	--- 0	--- 0	--- 0	--- 0	3.0 1	2.0 1
Walhalla	Pisgah (NC)	Mean No. 3.0 2	--- 0	3.5 2	--- 0	4.0 2	--- 0	--- 0	3.0 1	--- 0
Walhalla	Walhalla (GA)	Mean No. 3.0 2	3.0 2	3.0 2	--- 0	3.5 2	--- 0	--- 0	--- 0	2.0 1
Wild Rose	Wild Rose (MI) 1	Mean No. 2.5 2	2.0 2	--- 0	--- 0	--- 0	--- 0	--- 0	2.6 3	--- 0

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yerinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 5-5. Brown trout – Eight selected post-stocking field performance traits (relative ratings^{1/}) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to									
		Survival					Growth					Angling suscep- tibility	Tendency to migrate			Temper- ature > 70 °C	pH < 5.0			Catch & release	
		90 days					Over-winter						R	L	R		L	R	L		
		R	L	R	L	R	L	R	L	R	L										R
Armstrong	Armstrong (NC)	Mean No.	3.0 2	4.0 0	4.0 2	4.0 0	4.0 2	4.0 0	4.0 2	4.0 0	2.0 2	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 1	3.0 0
Bitterroot	Bitterroot (CT)	Mean No.	4.0 2	4.0 0	4.0 2	4.0 0	3.5 2	3.5 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 2	3.0 0	3.0 0
Cortland	Cortland (CT)	Mean No.	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 0
Crawford	Paint Bank	Mean No.	3.6 5	3.0 0	3.0 5	3.0 0	3.2 4	3.2 0	2.8 5	2.8 0	2.5 2	2.5 0	2.5 4	2.5 0	2.5 4	2.5 0	2.5 4	2.5 0	2.5 4	2.5 0	2.5 0
Crystal Lake	New Gloucester (ME)	Mean No.	3.5 2	4.0 1	2.0 2	4.0 1	3.5 2	4.0 1	3.0 2	3.0 1	3.0 2	3.0 1	3.0 2	3.0 1	3.0 2	3.0 1	3.0 2	3.0 1	3.0 2	3.0 1	3.0 0
Delaney Butte	Delaney Butte (CO)	Mean No.	4.0 1	5.0 0	5.0 1	4.0 0	4.0 1	4.0 0	3.0 1	3.0 0	4.0 1	4.0 0	4.0 1	4.0 0	4.0 1	4.0 0	4.0 1	4.0 0	4.0 1	4.0 0	4.0 0
Green Spring	Green Lake	Mean No.	3.0 1	2.0 0	2.0 1	2.0 0	2.0 0	2.0 0	3.0 1	3.0 0	2.0 1	2.0 0	2.0 1	2.0 0	2.0 1	2.0 0	2.0 1	2.0 0	2.0 1	2.0 0	2.0 0
Hybrid	Walhalla X Plymouth Rock	Mean No.	4.0 1	3.0 1	3.0 0	3.0 1	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 1	3.0 0	3.0 0
Leetown	Reeds Creek	Mean No.	0 0	0 0	0 0	0 0	0 0	0 0	5.0 1	5.0 0	1.0 1	1.0 0	1.0 1	1.0 0	1.0 1	1.0 0	1.0 1	1.0 0	1.0 1	1.0 0	1.0 0

Table 5-5. Brown trout – Continued

Strain	Broodstock	Post stocking										Tolerance to																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		Survival					Growth					Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0		Catch & release																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Table 5-5. Brown trout – Continued

Strain	Broodstock	Post stocking						Tolerance to							
		Survival			Growth			Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release			
		90 days		Over-winter	R		L								
		R	L		R	L	R						L	R	L
Rome	Walhalla - Ro	Mean No.	4.0 1	0	2.0 1	0	3.0 1	0	4.0 1	0	2.0 1	0	3.0 1	0	0
Seeforellen	Seeforellen (MI)	Mean No.	4.0 0	1	0	3.0 1	0	5.0 1	0	5.0 1	0	3.0 1	0	4.0 1	0
Seeforellen	Seeforellen (NY)	Mean No.	3.5 2	2.0 1	0	3.0 1	0	4.0 2	1	3.0 2	0	0	0	0	0
Shasta	Ford (WA)	Mean No.	3.0 1	0	4.0 1	0	4.0 1	0	3.0 1	0	3.0 1	0	0	0	0
Shasta	Shasta (CA)	Mean No.	2.5 2	0	2.0 2	0	3.0 1	0	2.0 2	0	4.0 1	0	0	0	0
Sheep Creek	BNSC	Mean No.	3.0 1	0	4.0 1	0	3.0 1	0	3.0 1	0	0	0	0	0	0
Sheep Creek	Lake Taneycomo	Mean No.	0	0	3.0 1	0	3.0 1	0	3.0 1	0	0	0	0	0	0
Sheep Creek	Sheep Creek (NV)	Mean No.	3.0 1	4.0 1	4.0 1	3.0 1	3.0 1	4.0 1	4.0 1	4.0 1	3.0 1	0	0	0	3.0 1
Soda Lake	Soda Lake (WY)	Mean No.	3.0 2	3.0 1	3.5 2	4.0 1	3.0 2	2.0 1	1.6 3	2.0 1	3.5 2	4.0 1	0	3.0 1	3.0 1
Spring Creek	Little Red River	Mean No.	0	0	4.0 1	0	0	0	3.0 1	0	3.0 1	0	2.0 1	3.0 1	0

Table 5-5. Brown trout – Continued

Strain	Broodstock	Post stocking						Tolerance to										
		90 days		Survival		Growth		Angling suscep- tibility		Tendency to migrate		Temper- ature > 70 °C		pH < 5.0		Catch & release		
		R	L	R	L	R	L	R	L	R	L	R	L	R	L			
Spring Creek	Spring Creek (MT)	Mean	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---	---	
		No.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
Star Valley Trout Ranch	Brown	Mean	3.0	---	3.0	---	3.0	---	3.0	---	---	---	4.0	---	---	---	2.0	---
		No.	1	0	1	0	1	0	1	0	0	0	1	0	0	0	1	0
Walhalla	Pisgah (NC)	Mean	3.0	---	4.0	---	3.5	---	2.0	---	3.5	---	3.0	---	3.0	---	3.0	---
		No.	2	0	2	0	2	0	2	0	2	0	2	0	2	0	1	0
Walhalla	Walhalla (GA)	Mean	4.0	---	4.0	---	3.5	---	3.5	---	2.0	---	3.0	---	---	---	---	---
		No.	2	0	2	0	2	0	2	0	2	0	1	0	1	0	0	0
White River	White River (AR)	Mean	---	---	4.0	---	4.0	---	2.0	---	3.0	---	3.0	---	3.0	---	4.0	---
		No.	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Wild Rose	Wild Rose (MI) 1	Mean	3.5	4.0	3.0	4.0	3.5	3.5	3.0	4.0	---	---	3.0	3.0	---	4.0	---	4.0
		No.	2	2	1	2	2	2	2	2	2	0	0	1	1	0	1	0

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 6-1. Cutthroat trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Bear Lake	Bear Lake (UT)	Ron Roubidoux	Mantua Hatchery, 555 E. Fish Hatchery Road, Mantua, UT 84324	Ph. 801-723-6579 Fax
Bear River	Bear River (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Beitey	Beitey (WA)	Gerald Beitey	Beitey Enterprises, 3502 Beitey Road, Valley, WA 99181	Ph. 509-935-6100 Fax
Catnip	Catnip	Dave Sanger	NV Division of Wildlife, 1100 Valley Road, Reno, NV 89512	Ph. 775-688-1536 Fax 775-688-1595
Colorado River	Colorado River (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Colorado River	Glenwood Spring	Rich Kolicki	Glenwood Springs SFH, P.O. Box 578, Glenwood Springs, CO 81602	Ph. 970-945-5293 Fax 970-945-4729
Colorado River	Lake Nanita, CRI	John Riger	Crystal River SFH, 2957 Hwy. 133, Carbondale, CO 81623	Ph. 970-963-2665 Fax 970-963-1004
Greenback	Cascade Creek	Ed Stege	USFWS, Saratoga NFH, P.O. Box 665, Saratoga, WY 82331-0665	Ph. 307-326-5662 Fax 307-326-9869
Greenback	Hunter Creek (Natives)	Tom Mandis	Bellvue Fish Research Hatchery, Box 96, Bellvue, CO 80512	Ph. 970-482-1141 Fax 970-224-0366
Greenback	South Platte	Pat Dwyer	US FWS Fish Technology Center, 4050 Bridger Canyon Road, Bozeman, MT 59715	Ph. 406-587-9265 Fax 406-586-5942
Henry's Lake	Henry's Lake (ID)	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Lahontan	Heenah-Summit & Walker	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax

Table 6-1. Cutthroat trout – Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Lahontan	Independence Lake	Dennis Redfern	CA Dept Fish and Game, American River SFH, 2101 Nimbus Road, Rancho Cordova, CA 95670	Ph. 916-358-2865 Fax 916-358-1435
Lahontan	Morrison Creek (NV)	Larry Marchant	Lahontan/Marble Bluff NFH, 710 Hwy. 395, Gardnerville, NV 89410	Ph. 702-265-2425 Fax 702-265-3004
Lahontan	Pilot Peak (UT)	Paul Thompson	Utah Wildlife Resources, 515 Ea 5300 South, Ogden, UT 74405	Ph. 801-476-2771 Fax 801-479-4010
Lahontan	Pyramid Lake (NV)	Larry Marchant	Lahontan/Marble Bluff NFH, 710 Highway 395, Gardnerville, NV 89410	Ph. 702-265-2425 Fax 702-265-3004
Lake Whatcom	Tokul Creek (WA)	Manager	Tokul Creek SFH, 37501 SE Fall City/Snoqualmie Road, Fall City, WA 98024	Ph. 206-222-5464 Fax 206-222-7924
Pike's Peak	Colorado Springs (CO)	James Melby	Box 367, Rye, CO 81069	Ph. 719-676-4036 Fax
Rio Grande	Haypress Lake	Tom Mandis	Bellvue Fish Research Hatchery, Box 96, Bellvue, CO 80512	Ph. 970-482-1141 Fax 970-224-0366
Snake River	Auburn (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Snake River	BarBC (WY) 1	Kerry Grande	Jackson NFH, 1500 Fish Hatchery Road, Jackson, WY 83001	Ph. 307-733-2510 Fax 307-733-8616
Snake River	BarBC (WY) 2	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Snake River	Snake River (NM)	Calvin Brandon	Seven Springs SFH, Mountain Road, Box 6, Jemez Springs, NM 87025	Ph. 509-829-3740 Fax
Snake River	Snake River (WY)	Alan Gettings	Dubois SFH, PO Box 704, Dubois, WY 82513	Ph. 307-683-2431 Fax

Table 6-1. Cutthroat trout – Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Twin Lakes	Twin Lakes (WA)	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
Westslope	Clarks Fork Hatchery	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Westslope	Fish Lake	Gene McPherson	McCall SFH, PO Box 1021, McCall, ID 83638	Ph. 208-634-2690 Fax 208-634-3492
Westslope	Kings Lake (WA)	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
Westslope	Priest Lake	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Westslope	Sandpoint	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Westslope	Washoe Park	Mark Sweeney	MT FW&P, Washoe Park SFH, 600 W. Pennsylvania Street, Anaconda, MT 59711	Ph. 406-563-2531 Fax 406-563-2531
Yellowstone	LaHardy Rapids	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Yellowstone	McBride (MT)	Daryl Hodges	Yellowstone River SFH, PO Box 508, Big Timber, MT 59011	Ph. 406-932-4434 Fax 404-932-4481

Table 6-2. Cutthroat trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Bear Lake	Bear Lake (UT)	L	S	----	Bear Lake	Wild	32	----	----
Bear River	Bear River (WY)	L	S	A	Raymond, Contag and Giraffe Creeks	Wild	----	1	1,3,4,5,6,7,8,9,10
Beitey	Beitey (WA)	U	P	----	Unknown	Domestic	----	----	----
Catnip	Catnip	----	S	----	Big Springs Reservoir -	Wild	----	----	----
Colorado River	Colorado River (WY)	L	S	A	North Beaver Creek; tributary to South Piney Creek.	Wild	160	1	3,4,5,6,7,8,9,10
Colorado River	Glenwood Spring	N	S	A	Nanita Lake- Rocky Mountain National Park	Wild	70	1	----
Colorado River	Lake Nanita, CRI	Y	S	A	Lake Nanita	Wild	60	1,2,3	7,8
Greenback	Cascade Creek	L	F	A	Arkansas River Drainage	Unknown	16	1,5	----
Greenback	Hunter Creek (Natives)		N	S	---- the Poudre River	Hunter Creek - South Fork of			Wild
Greenback	South Platte	N	F	RS	Como Creek, Poudre R., CO	Wild	30	----	----
Henry's Lake	Henry's Lake (ID)	L	S	BRD	Henry's Lake	Wild	----	4,5	3,5,7,9
Lahontan	Heenah-Summit & Walker		Y	S	----	Heenan-Summit & Walker Lakes			Wild
Lahontan	Independence Lake	L	S	----	Independence Lake	Unknown	----	----	4
Lahontan	Morrison Creek (NV)	N	F	----	Doudy Ponds, Pilot Mountain	Wild	30	----	2
Lahontan	Pilot Peak (UT)	N	S	----	Morrison Creek Pilot Mt.	Wild	40	1	

Table 6-2. Cutthroat trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Lahontan	Pyramid Lake (NV)	N	F	RS	Pyramid Lake, NV - Free ranging	Wild	----	1	All
Lake Whatcom	Tokol Creek (WA)	N	S	----	Tributarities to lake Whatcom, WA	Wild	294	----	4
Pike's Peak	Colorado Springs (CO)		L	S	----	----	Unknown	----	----
Rio Grande	Haypress Lake	N	S	RS	Haypress Lake	Wild	----	----	----
Snake River	Auburn (WY)	Y	S	SPF	Flat Creek (tributary to the Snake River)	Wild	----	1	1,3,4,5,6
Snake River	BarBC (WY) 1	L	F	A	BarBC Spring, Teton Co, WY	Wild	174	----	----
Snake River	BarBC (WY) 2	Y	S	A	BarBC Spring, Teton Co, WY	Wild	414	1	1,3,4,5,6
Snake River	Snake River (NM)	N	S	----	Snake River, Wyoming	Domestic	----	----	3,4
Snake River	Snake River (WY)	N	S	----	----	Unknown	----	----	5,6
Twin Lakes	Twin Lakes (WA)	U	S	----	Lake Chelan	Wild	----	----	3,4
Westslope	Clarks Fork Hatchery	Y	S	----	Arlee Hatchery, MT - probably from Kings Lake, WA - source upper Priest Lake, ID	Unknown	----	----	----
Westslope	Fish Lake	N	S	----	----	Unknown	----	----	4,8
Westslope	Kings Lake (WA)	L	S	----	Granite Creek & Kalispell Creek, Washington	Wild	----	----	4,6
Westslope	Priest Lake	L	S	RS	Priest Lake, ID	Wild	80	2	3,4
Westslope	Sandpoint	L	S	----	Washoe Park State Fish Hatchery, MT	Domestic	----	----	----

Table 6-2. Cutthroat trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
Westslope	Washoe Park	L	S	A	Composite from 12 tributaries to North Fork of Flathead & 2 tributaries of Clarks Fork	Wild	3100	3	7,8,9,10
Yellowstone	LaHardy Rapids	L	S	A	LeHardy Rapids, Yellowstone River, Yellowstone Nat'l Park	Wild	244	1	1,3,4,5,6
Yellowstone	McBride (MT)	L	S	----	McBride River	Wild	30	1	1,2,3,4,8,9,10

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - *Aeromonas salmonicida* (Furunculosis); RD - *Renibacterium salmonarum*, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis virus*; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis Virus*; OMV - *Oncorhynchus masou virus*; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingering stocking (rivers), 4 = Fingering stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 6-3. Cutthroat Trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		Crowd -ing	Trans- por- tation
								swim-up	1-year		
Bear Lake	Bear Lake (UT)	301	630	Mean No.	136.00 1	4.50 1	96 1	2.0 1	3.0 1	3.0 1	
Bear River	Bear River (WY)	401	531	Mean No.	384.33 3	10.93 3	87 3	3.0 3	3.3 3	3.0 3	
Colorado River	Colorado River (WY)	601	731	Mean No.	400.00 1	7.60 1	78 1	1.0 1	2.0 1	2.0 1	
Colorado River	Glenwood Spring	401	630	Mean No.	545.00 1	10.00 1	70 1	3.0 1	3.0 1	4.0 1	
Colorado River	Lake Nanita, CRI	501	630	Mean No.	1750.00 1	200.00 1	80 1	3.0 1	2.0 1	3.0 1	
Colorado River	Trappers Lake	---	---	Mean No.	251.00 2	6.20 2	95 2	3.0 2	3.0 2	3.0 2	
Greenback	Hunter Creek (Natives)	---	---	Mean No.	523.00 1	1.00 1	80 1	3.0 1	3.0 1	3.0 1	
Henry's Lake	Henry's Lake (ID)	501	531	Mean No.	300.00 1	--- 0	86 1	5.0 1	--- 0	5.0 1	
Lahontan	Heenah-Summit & Walker	401	531	Mean No.	132.00 1	--- 0	95 1	2.0 1	3.0 1	3.0 1	
Lahontan	Morrison Creek (NV)	401	430	Mean No.	125.00 1	0.29 1	70 1	3.0 1	3.0 1	3.0 1	
Lahontan	Pilot Peak (UT)	401	531	Mean No.	--- 0	--- 0	--- 0	--- 0	--- 0	--- 0	

Table 6-3. Cutthroat Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling			
								swim-up	1-year	Crowd -ing	Transp- ortation
Lahontan	Pyramid Lake (NV)	401	630	Mean No.	136.33 3	4,800 3	95 3	3.6 3	3.6 3	3.3 3	3.3 3
Lake Whatcom	Tokol Creek (WA)	1201	228	Mean No.	432.00 2	12.50 2	95 2	4.5 2	4.0 2	4.5 2	4.5 2
Rio Grande	Haypress Lake	---	---	Mean No.	614.00 1	1.00 1	90 1	3.0 1	3.0 1	3.0 1	3.0 1
Snake River	Auburn (WY)	1110	115	Mean No.	150.00 2	3,250 2	91 2	4.0 2	4.5 2	4.5 2	4.5 2
Snake River	BarBC (WY) 1	301	731	Mean No.	440.00 1	11.20 1	86 1	4.0 1	4.0 1	2.0 1	3.0 1
Snake River	BarBC (WY) 2	501	731	Mean No.	103.00 1	7.00 1	92 1	3.0 1	3.0 1	3.0 1	3.0 1
Snake River	Snake River (NM)	401	531	Mean No.	---	5.20 1	80 1	1.0 1	1.0 1	1.0 1	3.0 1
Snake River	Snake River (WY)	---	---	Mean No.	144.50 2	5.95 2	85 2	3.5 2	3.0 2	3.5 2	3.0 2
Twin Lakes	Twin Lakes (WA)	501	630	Mean No.	---	---	---	---	---	---	---
Westslope	Clarks Fork Hatchery	401	531	Mean No.	350.00 1	18.10 1	90 1	1.0 1	2.0 1	2.0 1	2.0 1
Westslope	Kings Lake (WA)	401	630	Mean No.	25.00 1	3.50 1	95 2	2.5 2	3.0 2	2.5 2	3.0 2

Table 6-3. Cutthroat Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	1-year -ing	
Westslope	Priest Lake	401	731	Mean No.	522.00 1	----	85 1	5.0 1	5.0 1	4.0 1
Westslope	Sandpoint	501	731	Mean No.	----	----	60 1	2.0 1	2.0 1	---- 0
Westslope	Washoe Park	501	631	Mean No.	----	----	----	2.0 1	3.0 1	2.0 1
Yellowstone	LaHardy Rapids	401	531	Mean No.	30.00 1	5.40 1	98 1	2.0 1	2.0 1	2.0 1
Yellowstone	McBride (MT)	301	531	Mean No.	350.00 1	----	90 1	3.0 1	3.0 1	3.0 1

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 6-4. Cutthroat trout – Disease resistance rating (relative ratings^{1/}) of reported broodstocks for nine common salmonid diseases.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Bear Lake	Bear Lake (UT)	Mean No. 2.0 2	2.0 2	2.0 2	---	2.0 2	2.0 2	2.0 2	2.7 4	1.0 1
Bear River	Bear River (WY)	Mean No. --- 0	--- 0	--- 0	---	---	---	---	3.0 3	2.0 1
Beitey	Beitey (WA)	Mean No. --- 0	--- 0	--- 0	---	---	---	---	---	---
Colorado River	Colorado River (WY)	Mean No. --- 0	--- 0	--- 0	---	---	---	---	2.0 1	3.0 1
Colorado River	Glenwood Spring	Mean No. --- 0	--- 0	--- 0	---	---	---	---	2.0 1	---
Colorado River	Lake Nanita, CRI	Mean No. --- 0	--- 0	5.0 1	---	---	---	---	1.0 1	1.0 1
Colorado River	Little Snake River	Mean No. --- 0	--- 0	--- 0	---	---	---	---	3.0 1	---
Colorado River	Trappers Lake	Mean No. 3.0 1	--- 0	--- 0	---	---	---	---	3.0 2	---
Greenback	Hunter Creek (Natives)	Mean No. --- 0	--- 0	--- 0	---	---	---	---	---	---
Greenback	South Platte	Mean No. --- 0	4.0 1	--- 0	---	4.0 1	---	---	3.0 1	---
Henry's Lake	Henry's Lake (ID)	Mean No. --- 0	--- 0	--- 0	---	---	---	---	3.5 2	---

Table 6-4. Cutthroat trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Henry's Lake	Henry's Lake (ID) - W	Mean No.	4.0 1	---	---	---	---	---	---	---
Lahontan	Heenah-Summit & Walker	Mean No.	---	---	---	---	---	---	1.0 1	---
Lahontan	Morrison Creek (NV)	Mean No.	3.0 1	4.0 1	---	---	---	---	2.0 1	---
Lahontan	Pilot Peak (UT)	Mean No.	---	---	---	---	---	---	---	---
Lahontan	Pyramid Lake (NV)	Mean No.	3.0 3	3.3 3	---	---	---	---	3.3 3	---
Lake Whatcom	Tokul Creek (WA)	Mean No.	4.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	4.0 1
Pike's Peak	Colorado Springs (CO)	Mean No.	2.0 1	2.0 1	3.0 1	---	---	---	4.0 1	4.0 1
Rio Grande	Haypress Lake	Mean No.	---	---	---	---	---	---	---	---
Snake River	Auburn (WY)	Mean No.	3.5 4	4.0 1	4.0 2	---	4.0 1	---	3.6 5	3.5 2
Snake River	BarBC (WY) 1	Mean No.	---	---	---	---	---	---	---	---
Snake River	BarBC (WY) 2	Mean No.	2.0 1	---	---	---	---	---	2.5 2	---

Table 6-4. Cutthroat trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Snake River	Snake River (NM)	Mean No. 3.0 1	---	2.5 2	---	---	---	---	2.5 2	3.0 1
Snake River	Snake River (WY)	Mean No. --- 0	---	---	---	---	---	---	4.0 2	4.0 1
Twin Lakes	Twin Lakes (WA)	Mean No. --- 0	---	---	---	---	---	---	---	---
Westslope	Clarks Fork Hatchery	Mean No. --- 0	5.0 1	---	---	4.0 1	---	---	4.0 1	4.0 1
Westslope	Fish Lake	Mean No. --- 0	---	---	---	---	---	---	4.0 1	4.0 1
Westslope	Kings Lake (WA)	Mean No. 3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	---
Westslope	Priest Lake	Mean No. --- 0	---	---	---	---	---	---	4.0 1	---
Westslope	Sandpoint	Mean No. --- 0	---	---	---	---	---	---	2.0 1	---
Westslope	Washoe Park	Mean No. --- 0	---	---	---	---	---	---	2.0 1	1.0 1
Yellowstone	LaHardy Rapids	Mean No. --- 0	---	---	---	---	---	---	2.0 1	---
Yellowstone	McBride (MT)	Mean No. --- 0	---	---	---	---	---	---	3.5 2	4.0 1

Table 6-4. Cutthroat trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Yellowstone	Pikes Peak	Mean No.	5.0 1	----	3.0 1	----	----	----	2.0 1	----

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmoninarum*), 3 = Enteric Redmouth (*Yersinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 6-5. Cutthroat trout – Eight selected post-stocking field performance traits (relative ratings^{1/}) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to							
		Survival						Growth				Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0				Catch & release
		90 days		Over-winter															
		R	L	R	L	R	L	R	L	R	L				R	L	R	L	
Bear Lake	Bear Lake (UT)	Mean No.	3.0 1	3.0 1	5.0 1	3.0 1	2.0 1	4.0 1	5.0 1	---	---	---	---	---	---	---	---	4.0 1	
Bear River	Bear River (WY)	Mean No.	2.3 3	---	2.3 3	---	2.6 3	---	---	---	---	3.5 2	---	3.0 2	---	---	---	---	
Colorado River	Colorado River (WY)	Mean No.	3.0 2	---	3.0 2	---	5.0 1	---	---	---	---	5.0 2	---	3.0 1	---	2.0 1	---	---	
Colorado River	Trappers Lake	Mean No.	2.0 1	---	2.0 1	---	3.0 1	---	---	---	---	4.5 2	---	---	---	---	---	---	
Henry's Lake	Henry's Lake (ID)	Mean No.	1.0 1	4.0 1	---	4.0 1	1.0 1	4.0 1	5.0 1	---	---	---	---	2.0 0	---	---	---	4.0 1	
Henry's Lake	Henry's Lake (ID) - W	Mean No.	3.0 1	---	4.0 1	---	5.0 1	---	---	---	---	4.0 1	---	3.0 1	---	4.0 1	---	---	
Lahontan	Independence Lake	Mean No.	4.0 1	---	4.0 1	---	4.0 1	---	---	---	---	4.0 1	---	---	---	4.0 1	---	---	
Lahontan	Pyramid Lake (NV)	Mean No.	2.0 2	---	3.0 3	---	5.0 2	---	---	---	---	2.3 3	---	3.0 1	---	3.3 3	---	---	
Lake Whatcom	Tokul Creek (WA)	Mean No.	3.0 1	---	4.0 1	---	2.0 1	---	---	---	---	3.0 1	---	---	---	---	---	---	

Table 6-5. Cutthroat trout – Continued

Strain	Broodstock	Post stocking										Tolerance to						
		Survival					Growth					Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release		
		Over-winter																
		90 days		R	L	R	L	R	L	R	L						R	L
Snake River	Auburn (WY)	Mean	2.7	---	3.0	---	3.2	---	4.0	---	2.7	---	3.3	3.0	---	---	3.0	3.0
		No.	4	0	4	0	4	0	5	0	4	0	3	1	0	0	2	1
Snake River	BarBC (WY) 2	Mean	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.5	3.0	3.5	4.0	---	---	---	---
		No.	2	1	2	1	2	1	2	1	2	1	2	1	2	1	0	0
Snake River	Snake River (NM)	Mean	---	---	---	---	---	---	---	---	---	---	3.0	---	---	---	---	---
		No.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Snake River	Snake River (WY)	Mean	4.0	---	4.0	---	4.0	---	2.0	---	---	---	4.0	---	---	---	---	---
		No.	1	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0
Westslope	Fish Lake	Mean	3.0	---	4.0	---	3.0	---	5.0	---	3.0	---	3.0	---	---	---	---	---
		No.	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0
Westslope	Kings Lake (WA)	Mean	4.0	---	3.0	3.0	4.0	---	4.0	---	2.0	3.0	2.0	3.0	2.0	3.0	---	3.0
		No.	1	0	1	1	1	0	1	0	1	1	1	1	1	1	0	1
Westslope	Washoe Park	Mean	---	---	4.0	---	2.0	---	4.0	---	---	---	1.0	---	---	---	---	---
		No.	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0
Yellowstone	McBride (MT)	Mean	3.3	4.5	3.6	4.5	3.3	3.5	4.0	4.0	2.5	3.5	2.0	3.0	2.5	---	---	3.0
		No.	3	2	3	2	3	2	3	2	2	2	2	2	2	0	0	1
Yellowstone	Pikes Peak	Mean	3.0	---	4.0	---	4.0	---	4.0	---	3.0	---	1.0	---	1.0	---	---	---
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 7-1. Lake trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Apostle/Gull Island	SAD (IRR)	Dale Bast	Iron River NFH, HC 62, Box 44, Iron River, WI 54847	Ph. 715-372-8510 Fax 715-372-8410
Apostle/Gull Island	SAW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Champlain	Champlain (VT)	Tom Dumont	Salisbury FCS, RD 1, Box 218, Salisbury, VT 05769	Ph. 802-352-4371 Fax
Gillis Lake	Gillis Lake (MN)	Lee Peterson	MN DNR, Peterson SFH, Rt. 1 Box 85A, Peterson, MN 55962	Ph. 507-875-2625 Fax 507-875-2625
Granby Reservoir	Granby Reservoir (CO)	Gerald Bennett	Box 545, Granby, CO 80446	Ph. 970-887-3654 Fax
Green Lake	GLW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Green Lake	GLW99	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519
Green Lake	Green Lake (IRR)	Dale Bast	Iron River NFH, HC 62, Box 44, Iron River, WI 54847	Ph. 715-372-8510 Fax 715-372-8410
Isle Royale	Isle Royale (IRR)	John Huber	MN DNR-Fisheries, Crystal Springs SFH, RR #2, Box 481, Altura, MN 55910	Ph. 507-796-6691 Fax 507-932-5483
Isle Royale	Isle Royale (MN)	John Huber	MN DNR-Fisheries, Crystal Springs SFH, RR #2, Box 481, Altura, MN 55910	Ph. 507-796-6691 Fax 507-932-5483
Jenny Lake	Jenny Lake (UT)	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Jenny Lake	Jenny Lake (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433

Table 7-1. Lake trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Klondike Reef	SKW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Lewis Lake	LLW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Lewis Lake	Saratoga - LLD	Ed Stege	USFWS, Saratoga NFH, P.O. Box 665, Saratoga, WY 82331-0665	Ph. 307-326-5662 Fax 307-326-9869
Lewis Lake	Story Hatchery	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Manitoba	Clearwater Lake	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Marquette	SMD (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Ontario	Ontario (ALL)	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519
Seneca	Finger Lakes (ME)	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Seneca	Seneca (ALL)	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519
Seneca	SLW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393
Superior	Iron River - Su	Dale Bast	Iron River NFH, HC 62, Box 44, Iron River, WI 54847	Ph. 715-372-8510 Fax 715-372-8410
Superior	Jordan River (ALL)	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519

Table 7-1. Lake trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Superior	Pendills Creek (ALL)	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519
Superior	Superior-Marquette (ALL)	Frederick Griffiths	USFWS, Allegheny NFH, R.D.#1, Box 1050, Warren, PA 16365	Ph. 814-726-0890 Fax 814-726-9519
Traverse Island	STW (HIF)	Faber Bland	USFWS, Pendills Creek/Hiawatha Forest NFH, 21200 West Hatchery Road, Brimley, MI 49715	Ph. 906-437-5231 Fax 906-437-5393

Table 7-2. Lake trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Apostle/Gull Island	SAD (IRR)	Y	F	A	Lake Superior	Wild	400	1	10
Apostle/Gull Island	SAW (HIF)	L	F	A	State of Michigan	Wild	----	5	All
Champlain	Champlain (VT)	Y	S	AS	Lake Champlain	Captive	60	----	4
Gillis Lake	Gillis Lake (MN)	L	S	A	Gillis Lake, Minnesota	Wild	220	----	3,4,7,8,9,10
Granby Reservoir	Granby Reservoir (CO)	N	S	----	Montana	Unknown	----	----	3,4,10
Green Lake	GLW (HIF)	L	F	A	Black Can Reef (Lake Michigan)	Captive	----	5	all
Green Lake	GLW99	----	F	----	Hiawatha Forest NFH (MI)	Domestic	----	----	----
Green Lake	Green Lake (IRR)	Y	F	A	Lake Michigan wild population held at Charlevoix SFH (MI)	Wild	102	1	10
Isle Royale	Isle Royale (IRR)	Y	S	A	Crystal Springs SFH	Domestic	147	----	4,6,8,10
Isle Royale	Isle Royale (MN)	Y	S	----	Spawning shoals off Isle Royale	Wild	375	----	8,10
Jenny Lake	Jenny Lake (UT)	L	S	----	Fish Lake (Utah))	Wild	19	----	----
Jenny Lake	Jenny Lake (WY)	L	S	A	Jenny Lake, Teton NP, Wyoming	Unknown	----	----	1,4,6,10
Klondike Reef	SKW (HIF)	L	F	----	Keweenaw Bay Tribal Hatchery	Wild	22	----	----
Lewis Lake	LLW (HIF)	L	F	A	Lewis Lake, Yellowstone NP	Captive	136	4	all
Lewis Lake	Saratoga - LLD	L	F	A	Lewis Lake, Yellowstone NP	Wild	521	1	1,2,3,4,5,6,7,8,10

Table 7-2. Lake trout - Continued.

Strain	Broodstock	Avail- ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Lewis Lake	Story Hatchery	Y	S	A	Jackson NFH	Wild	----	15	3,4
Manitoba	Clearwater Lake	N	S	----	Egg shipment from Clearwater Lake in Manitoba	Wild	----	----	3,4
Marquette	SMD (HIF)	L	F	A	Marquette SFH	Domestic	----	4	all
Ontario	Ontario (ALL)	Y	F	----	Feral Lake Ontario fish	Unknown	229	----	----
Seneca	Finger Lakes (ME)	N	S	----	egg shipment from Lake Seneca, NY	Wild	----	----	4,10
Seneca	Seneca (ALL)	L	F	A	Seneca Lake, NY	Wild	280	----	4,10
Seneca	SLW (HIF)	L	F	A	Seneca Lake, NY	Captive	125	4	all
Superior	Iron River - Su	Y	F	A	Marquette SFH	Domestic	----	----	1,6,10
Superior	Jordan River (ALL)	N	F	----	Jordan River NFH	Unknown	180	----	----
Superior	Pendills Creek (ALL)	L	F	A	Pendills Creek NFH	Domestic	500	----	----
Superior	Superior- Marquette (ALL)	L	F	A	Marquette SFH	Domestic	80	----	all
Traverse Island	STW (HIF)	L	F	----	Keweenaw Bay Tribal Hatchery	Wild	78	----	----

Table 7-2. Lake trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
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^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - Aeromonas salmonicida (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis* virus; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis* Virus; OMV - *Oncorhynchus masou* virus; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP -

Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingering stocking (rivers), 4 = Fingering stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 7-3. Lake Trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	1-year -ing	
Apostle/Gull Island	SAD (IRR)	1001	1130	Mean No.	389.33 3	22.60 3	79 3	2.0 3	2.3 3	2.3 3
Apostle/Gull Island	SAW (HIF)	1001	1031	Mean 0	----	----	----	----	----	----
Champlain	Champlain (VT)	901	1130	Mean No.	277.00 1	7.20 1	96 1	3.0 1	5.0 1	4.0 1
Gillis Lake	Gillis Lake (MN)	1001	1130	Mean No.	291.00 2	9.50 2	86 2	3.5 2	3.0 2	3.0 2
Granby Reservoir	Granby Reservoir (CO)	1001	1031	Mean No.	----	----	----	----	----	----
Green Lake	GLW (HIF)	1001	1031	Mean No.	----	----	----	----	----	----
Green Lake	Green Lake (IRR)	1001	1130	Mean No.	512.00 1	24.00 1	98 1	3.0 1	5.0 1	4.0 1
Isle Royale	Isle Royale (IRR)	1001	1130	Mean No.	495.00 2	19.65 2	94 2	2.5 2	1.5 2	3.5 2
Isle Royale	Isle Royale (MN)	1001	1130	Mean No.	427.50 2	20.00 2	90 2	3.0 2	3.0 2	2.5 2
Jenny Lake	Jenny Lake (WY)	----	----	Mean No.	437.00 2	7.85 2	89 2	2.5 2	2.0 2	4.5 2
Lewis Lake	LLW (HIF)	901	1031	Mean No.	----	----	----	----	----	----

Table 7-3. Lake Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	1-year -ing	
Lewis Lake	Mackinaw	---	---	Mean No.	390.00 1	4.70 1	69 1	3.0 1	3.0 1	2.0 1
Lewis Lake	Saratoga - LLD	901	1031	Mean No.	47.00 1	28.10 1	57 1	2.0 1	4.0 1	3.0 1
Lewis Lake	Story Hatchery	901	1031	Mean No.	202.00 1	6.60 1	93 1	3.0 1	5.0 1	3.0 1
Marquette	SMD (HIF)	1001	1031	Mean No.	394.00 1	12.30 1	85 1	4.0 1	5.0 1	4.0 1
Ontario	Ontario (ALL)	---	---	Mean No.	134.00 1	23.00 1	53 1	2.0 1	4.0 1	3.0 1
Seneca	Finger Lakes (ME)	---	---	Mean No.	311.00 1	13.00 1	98 1	2.0 1	1.0 1	3.0 1
Seneca	Finger Lakes (NY)	---	---	Mean No.	390.00 1	8.90 1	67 1	5.0 1	5.0 1	5.0 1
Seneca	Seneca (ALL)	1101	1130	Mean No.	318.00 2	12.00 2	90 2	3.0 2	4.0 2	4.0 2
Seneca	Seneca (DaH)	---	---	Mean No.	326.00 1	25.80 1	57 1	2.0 1	4.0 1	3.0 1
Seneca	SLW (HIF)	1001	1031	Mean No.	---	---	---	---	---	---
Superior	Iron River - Su	1001	1031	Mean No.	340.00 1	19.70 1	99 1	3.0 1	4.0 1	3.0 1

Table 7-3. Lake Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	1-year -ing
Superior	Pendills Creek (ALL)	1010	1115	Mean No.	318.00 1	12.00 1	90 1	3.0 1	3.0 1	4.0 1
Superior	Superior-Marquette (ALL)	1001	1130	Mean No.	318.00 1	12.00 1	90 1	3.0 1	3.0 1	4.0 1

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 7-4. Lake trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Seneca	Seneca (DaH)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Seneca	SLW (HIF)	Mean No.	5.0 2	3.0 2	4.0 2	---	---	---	---	---
Superior	Iron River - Su	Mean No.	4.0 2	3.0 2	1.0 2	---	---	---	3.0 2	---
Superior	Jordan River (ALL)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Superior	Pendills Creek (ALL)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Superior	Superior-Marquette (ALL)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Traverse Island	STW (HIF)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmoninarum*), 3 = Enteric Redmouth (*Yerinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 7-5. Lake Trout – Eight selected post-stocking field performance traits (Relative ratings¹⁾) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to													
		Survival										Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0				Catch & release						
		90 days					Over-winter								Growth										
		R	L	R	L	R	L	R	L	R	L				R	L	R	L		R	L				
Gillis Lake	Gillis Lake (MN)	Mean No.	4.0 1	2.0 1	3.0 1	2.0 1	3.0 1	3.0 1	3.0 1	4.0 1	3.0 1	3.0 0	---	---	3.0 0	---	---	---	---	---	---	---	---	---	---
Granby Reservoir	Granby Reservoir (CO)	Mean No.	5.0 1	0 0	5.0 1	0 0	5.0 1	0 0	5.0 1	5.0 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isle Royale	Isle Royale (IRR)	Mean No.	3.0 1	0 0	4.0 1	0 0	3.0 1	0 0	3.0 1	3.0 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Isle Royale	Isle Royale (MN)	Mean No.	---	---	---	---	3.0 0	1 0	3.0 0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jenny Lake	Ford	Mean No.	3.0 1	0 0	4.0 1	0 0	3.0 1	0 0	3.0 1	3.0 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Jenny Lake	Jenny Lake (WY)	Mean No.	3.0 1	0 0	3.5 2	0 0	3.0 2	0 0	3.0 2	3.5 2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lewis Lake	Story Hatchery	Mean No.	---	4.0 0	1 1	0 0	4.0 1	0 0	2.0 1	2.0 0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Manitoba	Clearwater Lake	Mean No.	3.0 1	0 0	3.0 1	0 0	3.0 1	0 0	3.0 1	3.0 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Marquette	SMD (HIF)	Mean No.	3.0 3	0 0	---	0 0	---	3.0 3	0 0	2.3 3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 7-5. Lake Trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to					
		Survival			Growth			Angling suscep- tibility			Tendency to migrate		
		90 days			Over-winter			tibility			ature > 70 °C		
		R	L		R	L		R	L		R	L	
Seneca	Finger Lakes (ME)	Mean	3.0	----	3.0	----	3.0	----	3.0	----	1.0	----	----
		No.	1	0	1	0	1	0	1	0	1	0	0
Seneca	Finger Lakes (NY)	Mean	4.0	----	4.0	----	3.0	----	3.0	----	3.0	----	----
		No.	1	0	1	0	1	0	1	0	1	0	0

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 8-1. Rainbow trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
6F2	6F2 (CA)	Roger Ellis	CA DF&G, 4234 East Shaw Avenue, Fresno, CA 93710	Ph. 559-243-4005 Fax 559-243-4025
Albino	Albino (UT)	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Arlee	ARD/Arlee - D	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Arlee	Arlee (CA)	Roger Ellis	CA DF&G, 4234 East Shaw Avenue, Fresno, CA 93710	Ph. 559-243-4005 Fax 559-243-4025
Arlee	Arlee (ENN)	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
Arlee	Ennis (MN)	Edwin Stork	MN DNR, Lanesboro SFH, Route 2, Box 85, Lanesboro, MN 55949	Ph. 507-467-3771 Fax 507-467-3416
Arlee	Erwin (AR)	John Stark	AR State Trout, 457 Surrey Lane, Lakeview, AR 72642	Ph. 501-424-5924 Fax 501-424-5924
Arlee	Erwin (ENN)	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
Arlee	Jocko (MT)	James Crepeau	Jocko River SFH, 206 Hatchery Road, Arlee, MT 59821	Ph. 406-726-3344 Fax
Arlee	Lost River	Dick Smith	Lost River Trout Hatchery, 5787 West 5000 North, Mackay, ID 83251	Ph. 208-588-2866 Fax 208-588-2683
Arlee	Missouri Arlee	James Cilello	MO DOC, Shepard of the Hills SFH, 633 Hatchery Road, Branson, MO 65616	Ph. 417-348-1305 Fax 417-334-4996
Arlee	Shepherd of the Hills (Spring) (MO) 2	Jerry Dean	Roaring River SFH, Rt. 1, Box 2538, Cassville, MO 65625	Ph. 417-847-2439 Fax 417-847-2430

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Avington	Avington (PA)	Terry Farner	Big Spring FCS, 844 Big Spring Road, Newville, PA 17241	Ph. 717-776-3170 Fax 717-776-4980
Beitey	Beitey (WA)	Gerald Beitey	Beitey Enterprises, 3502 Beitey Road, Valley, WA 99181	Ph. 509-935-6100 Fax
Bellaire	Crystal River	John Riger	Crystal River SFH, 2957 Highway, 133, Carbondale, CO 81623	Ph. 970-963-2665 Fax 970-963-1004
Beulah	Beulah (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Big Lake	Big Lake (AK)	Gary Wall	Fort Richardson SFH, P.O. Box 5267, Anchorage, AK 99505	Ph. 907-428-1348 Fax
Big Lake	Big Lake (AK)	Gary Wall	Crystal Lake SFH, P.O. Box 1088, Petersburg, AK 99833	Ph. 907-772-4772 Fax
Big Spring	Big Spring (PA)	Paul Drumm	Huntsdale FCS, 195 Lebo Road, Carlisle, PA 17013	Ph. 717-486-3419 Fax 717-486-4040
Big Spring	Oswayo/Big Spring	John Fritzman	Oswayo FCS, R.D. 2 Box 84, Coudersport, PA 16915	Ph. 814-698-2102 Fax 814-698-2508
Big Springs	Big Springs (NV)	Dave Sanger	NV Division of Wildlife, 1100 Valley Road, Reno, NV 89512	Ph. 775-688-1536 Fax 775-688-1595
Cape Cod	Goldendale	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
Case Western	Warm Water	Jim Blasko	Laurel Hill Trout Farm, RD 1 Box 135, Osterburg, PA 16667	Ph. 814-276-3993 Fax
Coleman	Coleman (CA)	James Adams	CA DF&G, Fillmore SFH, P.O. Box 666, Fillmore, CA 93016	Ph. 805-524-0962 Fax 805-524-4911

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Colorado River	Hayspur (ID)	Bob Esselman	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-788-2847 Fax
Desmet	Desmet (MT)	Bruce Chaney	Giant Springs SFH, PO Box 2163, Great Falls, MT 59403	Ph. 406-454-5734 Fax
Dome Rock	McDonald Stream	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Donaldson	Donaldson (ME)	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Donaldson	Donaldson (NE)	Dale Fattig	Box 111, Brady, NE 69123	Ph. 308-584-3451 Fax
Donaldson	Donaldson (NH)	Shaun Best	Jolly Farmer Products, RT 10 PO Box 56, East Lempsher, NH 03605	Ph. 603-863-2230 Fax 603-863-6720
Donaldson	Lost River	Dick Smith	Lost River Trout Hatchery, 5787 West 5000 North, Mackay, ID 83251	Ph. 208-588-2866 Fax 208-588-2683
Donaldson	Miller	Gary Miller	Miller Ranch, Inc., 37008 NE. Rotschy Road, Yacolt, WA 98675	Ph. 360-686-3066 Fax
Eagle Lake	Eagle Lake (CA)	Steve Sanders	CA Dept. F&G, Mt. Shasta SFH, # 3 Old Stage Road, Mt. Shasta, CA 96067	Ph. 916-926-2215 Fax 916-926-4404
Eagle Lake	Eagle Lake (ENN)	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
Eagle Lake	Eagle Lake (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Eagle Lake	Tillet	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Eagle Lake	Wigwam	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Emerald Lake	Emerald Lake (CO)	Tom Mandis	Bellvue Fish Research Hatchery, Box 96, Bellvue, CO 80512	Ph. 970-482-1141 Fax 970-224-0366
Emerson	Crystal Lake	Marvin Emerson	Crystal Lake Fisheries, Route 2, Box 528, Ava, MO 65608	Ph. 417-683-2301 Fax 417-683-6565
Ennis	McConaughy	Larry Marchant	Lahontan/Marble Bluff NFH, 710 Hwy. 395, Gardnerville, NV 89410	Ph. 702-265-2425 Fax 702-265-3004
Ennis	Paint Bank	Charles Stephens	Paint Bank FCS, Route 1, Box 12, Paint Bank, VA 24131-9702	Ph. 540-897-5401 Fax 540-897-5402
Ennis Albino	RTAB	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Ennis/Erwin	ERD/Erwin (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Erwin	Erwin (ENN)	Bernie Shrabale	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
Erwin	Erwin (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Erwin	Erwin (WI)	Lee Haass	WI DNR, Osceola SFH, 2517 93rd Ave, Osceola, WI 54020-4204	Ph. 715-294-2525 Fax
Erwin	Erwin (WSS)	Dean Rhine	USFWS, White Sulfur Springs NFH, 400 E. Maine Street, White Sulphur, WV 24986	Ph. 304-536-1361 Fax 304-536-4634
Fish Lake	Fish Lake (ENN)	Bernie Shrabale	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Fish Lake/Desmet	RTFD	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Hayspur	R9 (ID)	Bob Esselman	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-788-2847 Fax
Hildebrandt	Lassen	Dick Smith	Lost River Trout Hatchery, 5787 West 5000 North, Mackay, ID 83251	Ph. 208-588-2866 Fax 208-588-2683
Hot Creek	Boulder Fall	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Hot Creek	Fall Spawn	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Hot Creek	Hot Creek (CA)	Mike Seefeldt	CA DFG, Hot Creek Hatchery, Star Route 1, Box 208, Mammoth Lakes, CA 93546	Ph. 760-934-2664 Fax 760-934-5123
Hot Creek	RTH (CA) 2	Roger Ellis	CA DF&G, 4234 East Shaw Avenue, Fresno, CA 93710	Ph. 559-243-4005 Fax 559-243-4025
House Creek	House Creek (ID)	Terry Patterson	College of Southern Idaho, Box 1238, Twin Falls, ID 82065	Ph. 208-733-3972 Fax
Hybrid	EED/Erwin - Arlee (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Hybrid	Huntsdale/Bellefonte	Paul Drumm	Huntsdale FCS, 195 Lebo Road, Carlisle, PA 17013	Ph. 717-486-3419 Fax 717-486-4040
Hybrid	Whitney	James Adams	CA DF&G, Fillmore SFH, P.O. Box 666, Fillmore, CA 93016	Ph. 805-524-0962 Fax 805-524-4911
Kamloops	Duncan River	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Kamloops	Kamloops (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Kamloops	Lake Superior	Fred Tureson	French River SFH, 5357 N. Shore Drive, Duluth, MN 55804	Ph. 218-723-4881 Fax 218-723-4880
Kamloops	Luce Reservoir Kamloops	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Kamloops	RTKJ	Mike Seefeldt	CA DFG, Hot Creek Hatchery, Star Route 1, Box 208, Mammoth Lakes, CA 93546	Ph. 760-934-2664 Fax 760-934-5123
Kamloops	Skanes / Gloyd Springs	Bob Esselman	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-788-2847 Fax
Kamloops	Spring Creek	Anthony Nowak	Spring Creek Trout Hatchery, Route # 1, Box 1600, Lewistown, MT 59457	Ph. 406-538-3538 Fax 406-538-2401
Kamloops	Trout Lodge	Jack Picconi	Lake Dale Farms, 4313 Roche Harbor Road, Friday Harbor, WA 98250	Ph. 360-378-3971 Fax
Kamloops	Trout Lodge (CO)	Ken Cline	Cline Trout Farms, 5555 Valmont, Boulder, CO 80301	Ph. 303-442-2817 Fax 303-443-2484
Kamloops	Trout Lodge (MD)	David Woronecki	Albert Powell SFH, Rt. 1, Box 180, 20901 Fish Hatchery Road, Hagerstown, MD 21740	Ph. 301-791-4736 Fax
Kamloops	Trout Lodge (NY)	Robert Feyl	Pine Valley Trout, 2412 Sands Rd, Camillus, NY 13031	Ph. 315-672-8691 Fax
Kamloops	Trout Lodge (WI)	Charles Graham	Star Prairie Trout Farm, 400 Hill Ave., Star Prairie, WI 54026	Ph. 715-248-3633 Fax
Kettle River	Phalou Lake	John Kenwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Lassen	Lassen	Gifford Ewers	Deep Valley Park, 767 Hunter Cover Rd, Allons, TN 38541	Ph. 615-823-6053 Fax
Laurel Hill	Laurel Hill (PA)	Jim Blasko	Laurel Hill Trout Farm, RD 1 Box 135, Osterburg, PA 16667	Ph. 814-276-3993 Fax
London	London (IN)	David Welschmer	Curtis Creek Trout Rearing Station, 4250 E. 410 N., Howe, IN 46746	Ph. 219-562-3855 Fax 219-562-2836
London	London (OH)	Dale Arnold	London SFH, 2470 Roberts Mill Road S.W., London, OH 43140	Ph. 614-852-1412 Fax 614-852-1588
Lost River	Lost River	Dick Smith	Lost River Trout Hatchery, 5787 West 5000 North, Mackay, ID 83251	Ph. 208-588-2866 Fax 208-588-2683
Manchester	Manchester (IA)	David Marolf	Manchester SFH, 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
McCloud	Cape Cod	John Kerwin	WA Dept. of Fish & Wildlife Administrator, 600 Capitol Way N, Olympia, WA 98501	Ph. 360-753-5713 Fax
McCloud	Shasta	Dennis Redfern	CA Dept Fish and Game, American River SFH, 2101 Nimbus Road, Rancho Cordova, CA 95670	Ph. 916-358-2865 Fax 916-358-1435
McCloud	South Tacoma	Manager	Tokul Creek SFH, 37501 SE Fall City/Snoqualmie Road, Fall City, WA 98024	Ph. 206-222-5464 Fax 206-222-7924
McConaughy	McConaughy (ENN)	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
McConaughy	McConaughy (SD)	Rick Cordes	Cleghorn Springs SFH, 4725 Rimrock Hwy, Rapid City, SD 57702-4204	Ph. 605-394-4100 Fax
Missouri	Bennett Spring	Ronald McCullough	MO DOC, Bennett Spring SFH, 26142 Hwy. 64 A, Lebanon, MO 65536	Ph. 417-532-4418 Fax 417-532-5507

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Missouri	Shepherd of the Hills (Fall)	James Cilello	MO DOC, Shepard of the Hills SFH, 633 Hatchery Road, Branson, MO 65616	Ph. 417-348-1305 Fax 417-334-4996
Nashua	Nashua (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road, P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Neosho	Shasta (WSS)	Dean Rhine	USFWS, White Sulphur Springs NFH, 400 E. Maine Street, White Sulphur, WV 24986	Ph. 304-536-1361 Fax 304-536-4634
Nisqually	Nisqually (WA)	Ron Stoker	5780 Martin Way, Lassy, WA 98516	Ph. 360-491-7440 Fax
Paradise	Golden	Gary Marquard	Box 546, Buhl, ID 83316	Ph. 208-326-3100 Fax 208-326-5935
Parkview	Parkview (NM)	George Galven	Parkview SFH, PO Box 7, Los Ojos, NM 87551	Ph. 505-588-7307 Fax 505-588-7082
Pit River	Pit River (CA)	Shane Overton	CA Dept. F&G, Crystal Lake Hatchery, 40158 Baum Lake Road, Cassel, CA 96016	Ph. 530-335-4111 Fax 530-335-3031
Pleasure Valley	Pleasure Valley (WV)	Paul Richards	RR 1 Box 211, Montrose, WV 26283	Ph. 304-823-2228 Fax
Reynoldsdale	Reynoldsdale (PA)	Patrick Ferko	PA F&B Commission, Reynoldsdale FCS, 162 Fish Hatchery Road, New Paris, PA 15554	Ph. 814-839-2211 Fax 814-839-4911
Sacramento River	Coleman	Mike Seefeldt	CA DFG, Hot Creek Hatchery, Star Route 1, Box 208, Mammoth Lakes, CA 93546	Ph. 760-934-2664 Fax 760-934-5123
Sand Creek	RTSC	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Shasta	ELT	Steve Sanders	CA Dept. F&G, Mt. Shasta SFH, # 3 Old Stage Road, Mt. Shasta, CA 96067	Ph. 916-926-2215 Fax 916-926-4404

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Shasta	RTS	Steve Sanders	CA Dept. F&G, Mt. Shasta SFH, # 3 Old Stage Road, Mt. Shasta, CA 96067	Ph. 916-926-2215 Fax 916-926-4404
Shasta	Shasta (ENN)	Bernie Shrable	Ennis NFH, 180 Fish Hatchery Road, Ennis, MT 59729	Ph. 406-682-4847 Fax 406-682-7635
Shasta	Shasta (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783
Shasta	Shasta (IA)	David Marolf	Manchester SFH, 22693 205th Avenue, Manchester, IA 52057	Ph. 319-927-3276 Fax 319-927-5736
Shepherd of the Hills	Shepherd of the Hills	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Strohman	Greensprings (PA)	Charles Finui	Green Springs Trout Farm, 1129 Shaffer Run Road, Somerset, PA 15501	Ph. 814-445-5427 Fax
Swanson	Swanson (AK)	Gary Wall	Fort Richardson SFH, P.O. Box 5267, Anchorage, AK 99505	Ph. 907-428-1348 Fax
Swanson	Swanson (AK)	Gary Wall	Crystal Lake SFH, P.O. Box 1088, Petersburg, AK 99833	Ph. 907-772-4772 Fax
Tahoe	Marlette Lake (NV)	Dave Sanger	NV Division of Wildlife, 1100 Valley Road, Reno, NV 89512	Ph. 775-688-1536 Fax 775-688-1595
Tasmanian	Glenwood Spring	Rich Kolicki	Glenwood Springs SFH, P.O. Box 578, Glenwood Springs, CO 81602	Ph. 970-945-5293 Fax 970-945-4729
Tasmanian	Tasmanian (CO)	John Riger	Crystal River SFH, 2957 Highway 133, Carbondale, CO 81623	Ph. 970-963-2665 Fax 970-963-1004
Tasmanian	Tasmanian (NV)	Wayne Pachal	NHF&G, Berlin SFH, RR 3, Box 378d, Berlin, NH 03570	Ph. 603-449-3412 Fax

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Ten Sleep	Ten Sleep (UT)	Richard Jensen	J. Perry Egan Hatchery, P.O. Box 85, Bicknell, UT 84715	Ph. 435-425-3547 Fax 435-425-3547
Trophy Fish Ranch	Sevier Valley	Bobby Williams	3700 E. Glenwood Road, Richfield, UT 84701	Ph. 801-896-4922 Fax 801-896-8685
Trout Haven	Trout Haven	Lew Drain	Hwy 298 S, PO Box 1063, Big Timber, MT 59011	Ph. 406-932-4357 Fax
Trout Lodge	Pisgah	John Murry	Pisgah Forest SFH, PO Box 728, Pisgah Forest, NC 28768	Ph. 704-877-3121 Fax
Trout Lodge	Red-eyed Golden	Bryan Plemmons	Casta Line Trout Farms, 97 Golden Brook Lane, Goshen, VA 24439	Ph. 540-997-5461 Fax
Trout lodge	Trout lodge	Camilla Timm	Trout Lodge, Inc., Box 1290, Sumner, WA 98516	Ph. 253-863-0446 Fax
Watson	Watson	Violet Watson	Watson Trout Farms, 4055 Hwy 19E, Elizabethton, TN 37643	Ph. 423-543-3223 Fax
White Sulfur Springs	White Sulfur Springs (CT)	David Summer	Quinebaug SFH, 151 Trout Hatchery Road; P.O. Box 441, Center Village, CT 06332	Ph. 860-564-7542 Fax 860-564-6621
Whitney	RTW	Jim Yarbrough	Mt. Whitney SFH, HCR #67, Box 26, Independence, CA 93526	Ph. 619-878-2272 Fax
Whitney	Whitney (WA)	Manager	Tokol Creek SFH, 37501 SE Fall City/Snoqualmie Road, Fall City, WA 98024	Ph. 206-222-5464 Fax 206-222-7924
Wilson Pond	Wilson Pond - LB (ME)	Steve Wilson	Governor Hill SFH, 284 State St., Augusta, ME 04333	Ph. 207-287-5261 Fax 207-287-6395
Winthrop	Winthrop (GA)	Bill Couch	GA WRD, Buford SFH, 3204 Trout Place, Cumming, GA 30041	Ph. 770-781-6888 Fax 770-781-6889

Table 8-1. Rainbow trout - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
WV State Hatchery	Golden	Bryan Plemmons	Casta Line Trout Farms, 97 Golden Brook Lane, Goshen, VA 24439	Ph. 540-997-5461 Fax
Wytheville	Domestic (F)	Jonathan Mellon	Randolph SFH, Box 27 Hatchery Road, Randolph, NY 14772	Ph. 716-358-4755 Fax
Wytheville	Pequest	Kurt Powers	NJDF&W, Pequest SFH, 605 Pequest Road, Oxford, NJ 07863	Ph. 908-637-4173 Fax 908-637-6735
Wytheville	Petersburg	Stephen Stiles	WV DNR, Petersburg Trout Hatchery, HC 33, Box 187, Petersburg, WV 26847	Ph. 304-257-4014 Fax 304-257-4014
Wytheville	Pisgah	John Murry	Pisgah Forest SFH, PO Box 728, Pisgah Forest, NC 28768	Ph. 704-877-3121 Fax
Wytheville	White Sulfur Springs	Tom Dumont	Salisbury FCS, RD 1, Box 218, Salisbury, VT 05769	Ph. 802-352-4371 Fax
Wytheville	Wytheville (ERW)	Jack Jones	USFWS, Erwin NFH, 520 Federal Hatchery Road, Erwin, TN 37650	Ph. 423-743-4712 Fax 423-743-9783

Table 8-2. Rainbow trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
6F2	6F2 (CA)	L	S	----	Bellview, Colorado and Crystal River SFH, CO.	Domestic	----	----	4,5,6
Albino	Albino (UT)	N	S	----	----	Domestic	----	----	5,6
Arlee	ARD/Arlee - D	Y	F	A	Ennis NFH, from Jocko River SFH	Domestic	480	1	1,3,5,6
Arlee	Arlee (CA)	L	S	----	Bellevue Research Hatchery	Unknown	----	----	5,6
Arlee	Arlee (ENN)	L	F	A	Jocko River SFH, Arlee, MT	Domestic	569	1	1,4,5,6,8
Arlee	Ennis (MN)	L	S	RS	Ennis NFH	Domestic	516	----	1,2,3,4,5,6
Arlee	Erwin (AR)	L	S	----	Spring Creek Hatchery, Lewistown MT	Captive	----	----	3,4,5,6
Arlee	Erwin (ENN)	L	F	A	Jocko River SFH, Arlee, MT	Domestic	569	1	all
Arlee	Jocko (MT)	N	S	----	Jocko River Trout Station	Domestic	----	----	4
Arlee	Lost River	Y	P	RS	College of Southern Idaho	Domestic	----	----	----
Arlee	Missouri Arlee	Y	S	RS	Shepherd of the Hills SFH	Domestic	600	----	5,6
Arlee	Shepherd of the Hills (Spring) (MO) 2	L	S	----	Shepherd of the Hills SFH	Domestic	600	----	5,6
Avington	Avington (PA)	L	S	----	Pleasant Gap SFH	Unknown	----	----	1,2,3,4,5,6
Beiley	Beiley (WA)	Y	P	----	Unknown	Domestic	----	----	----
Bellaire	Crystal River	Y	S	A	Wigwam Strain - Wyoming	Domestic	----	1	5,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Beulah	Beulah (CT)	Y	S	B-BF	Beulah NFH	Unknown	---	---	5,6
Big Lake	Big Lake (AK)	N	S	---	---	Unknown	---	---	4,6
Big Lake	Big Lake (AK)	N	S	---	---	Unknown	---	---	---
Big Spring	Big Spring (PA)	Y	S	---	Big Spring Fish Culture Station	Domestic	---	---	1,5,6
Big Spring	Oswayo/Big Spring	N	P	---	Big Spring FCS	Domestic	---	---	---
Big Springs	Big Springs (NV)	---	S	---	Big Springs Reservoir, Nevada	Wild	---	---	---
Cape Cod	Goldendale	N	S	---	McNott/Meador/Cape Cod	Captive	---	---	3,4,5,6
Case Western	Warm Water	Y	P	---	Case Western Reserve University	Domestic	100	---	---
Coleman	Coleman (CA)	N	S	---	Coleman NFH	Domestic	---	---	3,4,5,6
Colorado River	Hayspur (ID)	Y	S	A	Colorado River	Wild	120	---	5,7
Desmet	Desmet (MT)	N	S	---	---	Unknown	---	---	3,7,8,9,10
Dome Rock	McDonald Stream	L	S	A	---	Unknown	---	---	3,5
Donaldson	Donaldson (ME)	N	S	---	---	Domestic	---	---	5,6,10
Donaldson	Donaldson (NE)	Y	P	---	Sweden	Domestic	600	---	---
Donaldson	Donaldson (NH)	Y	P	---	Jolly Farmer Fish Farm	Domestic	186	---	4,5,6,7,8
Donaldson	Lost River	Y	P	RS	Garden of Eden	Domestic	---	---	---
Donaldson	Miller	L	P	---	University of Washington	Domestic	2000	---	2,4

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Eagle Lake	Eagle Lake (CA)	N	S	----	----	Domestic	----	----	3,4,5,6
Eagle Lake	Eagle Lake (ENN)	L	F	A	Creston NFH, MT	Wild	416	1	all
Eagle Lake	Eagle Lake (ERW)	Y	F	A	Ennis NFH, MT	Domestic	480	1	all
Eagle Lake	Tillett	N	S	----	----	Domestic	----	----	3,4,5,6
Eagle Lake	Wigwam	L	S	A	Eagle Lake, CA	Captive	----	1	1,4,5,6
Emerald Lake	Emerald Lake (CO)	N	S	----	----	Unknown	----	----	3,4,7,8,9,10
Emerson	Crystal Lake	L	P	----	Ennis NFH, MT	Unknown	----	----	1,5,6
Ennis	McConaughy	N	F	----	Ennis NFH, MT	Domestic	----	----	----
Ennis	Paint Bank	L	S	A	Ennis NFH, MT	Domestic	107	1	5,6
Ennis Albino	RTAB	L	S	----	Ennis NFH, MT	Domestic	----	----	----
Ennis/Erwin	ERD/Erwin (ERW)	Y	F	A	Ennis NFH, MT	Domestic	480	1	5,6
Erwin	Erwin (ENN)	L	F	A	Ennis NFH, MT	Domestic	100	1	all
Erwin	Erwin (ERW)	N	F	----	Ennis NFH, MT	Unknown	----	----	----
Erwin	Erwin (WI)	Y	S	A	Ennis NFH, MT	Domestic	1200	1	3
Erwin	Erwin (WSS)	L	F	A	Paint Bank SFH	Domestic	480	----	----
Fish Lake	Fish Lake (ENN)	L	F	----	Erwin NFH, TN	Domestic	2720	1	1,2,3,4,5,6
Fish Lake/ RTFD	RTFD	L	S	----	Fish Lake.(UT) and	Wild	3000	----	5,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Desmet					Desmet Lake (WY)				
Hayspur	R9 (ID)	Y	S	----	Hayspur Fish Hatchery	Domestic	----	,3	3,4,5
Hildebrandt	Lassen	Y	P	RS	Mt. Lassen Trout Farm	Domestic	----	----	----
Hot Creek	Boulder Fall	Y	S	A	Bothell, WA (Commercial Hatchery)	Domestic	----	1	1,4,5,6
Hot Creek	Fall Spawn	U	S	A	Hot Creek strain, Bothell, Wash.	Unknown	----	----	3,4,5,6
Hot Creek	Hot Creek (CA)	L	S	----	Springville, UT 1933	Domestic	----	----	3,4,5,6
Hot Creek	RTH (CA) 2	L	S	----	Egg shipment to Hot Creek SFH from Ten Sleep SFH (WY) 1955	Unknown	----	----	5,6
House Creek	House Creek (ID)	Y	P	----	Meador Strain & Outcross	Domestic	1100	----	1,3,4,5,6
Hybrid	EED/Erwin - Arlee (ERW)	Y	F	A	Ennis NFH, MT	Domestic	480	1	1,3,5
Hybrid	Huntsdale / Y Bellefonte	S		----	----	Domestic	----	----	5,6
Hybrid	Whitney	N	S	----	----	Domestic	----	----	3,4,5,6
Kamloops	Duncan River	L	F	A	Kootenay Hatchery BC, Canada	Wild	20	1	6
Kamloops	Kamloops (CT)	Y	S	B-BF	Trout Lodge	Unknown	----	----	5
Kamloops	Lake Superior	Y	S	RS	Unknown	Unknown	----	1	3,4
Kamloops	Luce Reservoir L Kamloops	S	A		Kootenay Hatchery, B.C.	Captive	14	1,5	4,5,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Kamloops	RTKJ	N	S	----	----	Unknown	---	---	3,4
Kamloops	Skanes/ Gloyd Springs	Y	S	A	Skanes/Gloyd Springs	Domestic	---	---	4,5,6
Kamloops	Spring Creek	N	P	----	Trout Lodge	Domestic	571	---	----
Kamloops	Trout Lodge	N	P	----	Trout Lodge	Unknown	---	---	----
Kamloops	Trout Lodge (CO)	L	P	----	Trout Lodge	Domestic	---	---	5,6
Kamloops	Trout Lodge (MD)	N	S	----	Trout lodge Inc., Sumner, WA	Unknown	---	---	1,2,5,6
Kamloops	Trout Lodge (NY)	N	P	----	Trout Lodge	Unknown	---	---	1,2,5,6
Kamloops	Trout Lodge (WI)	N	P	----	----	Unknown	---	---	----
Kettle River	Phalou Lake	N	S	----	Kettle River, WA	Wild	150	---	3,4,7,8
Lassen	Lassen	N	P	----	Mt. Lassen Trout Farm	Unknown	---	---	----
Laurel Hill	Laurel Hill (PA)	Y	P	----	Commercial Hatcheries	Domestic	---	---	----
London	London (IN)	L	S	A	London SFH	Domestic	---	---	1,3,4,5,6
London	London (OH)	L	S	----	Shephard of-the-hills & Manchester Bowden	Domestic	150	---	3,4,5,6
Lost River	Lost River	Y	P	RS	Ennis NFH, MT	Domestic	----	----	3,4,5,6,7,8
Manchester	Manchester (IA)	N	S	----	----	Domestic	---	---	----

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
McCloud	Cape Cod	Y	S	----	Cape Cod Trout Company, Wareham, Mass.	Domestic	84	1	----
McCloud	Shasta	N	S	----	McCloud River	Unknown	----	----	1,3,5
McCloud	South Tacoma	N	S	----	----	Unknown	----	----	5,6
McConaughy	McConaughy (ENIN)	L	F	A	Lake McConaughy	Wild	10	1	all
McConaughy	McConaughy (SD)	L	S	A	Lake McConaughy	Domestic		1	1,2,4
Missouri	Bennett Spring	N	S	RS, AS	----	Unknown		----	4,5,6
Missouri	Shepherd of the Hills (Fall)	Y	S	RS	Wytheville NFH, Neosho NFH, Sequiota-Shephard-McCloud Strain	Domestic		1	5,6
Nashua	Nashua (CT)	Y	S	B-BF	Nashua NFH	Unknown		----	5,6
Neosho	Shasta (WSS)	L	F	A	Ennis NFH	Domestic	160	----	3,4
Nisqually	Nisqually (WA)	Y	P	----	----	Domestic	1000	----	3,4
Paradise	Golden	L	P	-----	Paradise Hatchery, Utah	Domestic	100	----	----
Parkview	Parkview (NM)	N	S	----	Parkview SFH	Domestic	9600	----	1,3,4,5,6
Pit River	Pit River (CA)	Y	S	----	Pit River	Domestic	----	----	3,4
Pleasure Valley	Pleasure Valley (WV)	N	P	----	Mill Run - Pleasure Valley	Wild	5	----	1,6
Reynoldsdale	Reynoldsdale (PA)	N	S	-----	----	Domestic	----	----	3,4,5,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
Sacramento River	Coleman	L	S	----	Coleman H. Sacramento River Drainage	Domestic	----	----	5,6
Sand Creek	RTSC	L	S	----	Fish Genetics Lab. Beulah, WY	Domestic	22	----	1,5,6
Shasta	ELT	Y	S	----	Eagle Lake, CA	Wild	12	----	4,8
Shasta	RTS	Y	S	----	Meador's Trout Farm, Pocatello, ID crossed with RTH-Hot Creek strain (CA DF&G)	Domestic	----	----	5,6
Shasta	Shasta (ENN)	L	F	A	Mt. Shasta SFH	Domestic	400	1	All
Shasta	Shasta (ERW)	Y	F	A	Ennis NFH	Domestic	480	1	----
Shasta	Shasta (IA)	L	S	----	Ennis NFH	Domestic	200	3	1,3,5,6,7,9
Shepherd of the Hills	Shepherd of the Hills	L	S	----	Wigwam SFH (WY)	Domestic	----	4,6	
Strohm	Greensprings (PA)	Y	P	----	Green Spring (Thomas 1946)	Unknown	150	----	3,4,5,6
Swanson	Swanson (AK)	L	S	----	Swanson River, Kenai Peninsula	Wild	300	----	----
Swanson	Swanson (AK)	L	S	----	Swanson River, Kenai Peninsula	Wild	300	----	4,6
Tahoe	Marlette Lake (NV)	L	S	----	Lake Tahoe	Wild	53	----	4,8
Tasmanian	Glenwood Spring	N	S	----	Crystal River Hatchery	Domestic	200	----	----
Tasmanian	Tasmanian (CO)	Y	S	A	Sevrup Fisheries – Bridport, Tasmania	Domestic	----	1	4,5,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- ^{1/} Ability	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
Tasmanian	Tasmanian (NV)	N	S	----	Crystal River Hatchery - Colorado	Domestic	----	----	3,4,5,6
Ten Sleep	Ten Sleep (UT)	L	S	A	Wigwam SFH (Ten Sleep, WY)	Domestic	----	----	6
Trophy Fish Ranch	Sevier Valley	Y	P	A	unknown	Unknown	----	----	3,4
Trout Haven	Trout Haven	N	P	----	Trout Haven	Unknown	----	----	----
Trout Lodge	Pisgah	N	S	----	Troutlodge	Domestic	----	----	5,6
Trout Lodge	Red-eyed Golden	Y	P	----	Trout Lodge (WA)	Domestic	15	----	1,2
Trout lodge	Trout lodge	N	P	----	Balck Canyon	Unknown	----	----	3,4,5,6
Watson	Watson	U	P	----	----	Unknown	----	----	----
White Sulfur Springs	White Sulfur Springs (CT)	Y	S	B-BF	White Sulfur Springs NFH	Unknown	----	----	6
Whitney	RTW	N	S	----	Mt. Whitney SFH	Domestic	----	----	3,4,5,6
Whitney	Whitney (WA)	N	S	----	Mt. Whitney Hatchery, CA	Unknown	124	----	3,4,5,6,7,8,9,10
Wilson Pond	Wilson Pond - LB (ME)		L	S	A	Lower Wilson Pond		Wild	
Winthrop	Winthrop (GA)	L	S	----	Walhalla NFH	Domestic	500	----	5,6
WV State Hatchery	Golden	Y	P		Wolverton Trout Farm, Marlinton, WV	Domestic	----	----	
Wytheville	Domestic (F)	N	S	----	Randolph SFH	Domestic	----	----	4,6

Table 8-2. Rainbow trout - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Wytheville	Pequest	L	S	A	White Sulfur Springs NFH	Domestic	2500	----	1,5,6
Wytheville	Petersburg	N	S	----	Wytheville, VA	Domestic		----	5,6
Wytheville	Pisgah	L	S	----	Wytheville NFH	Unknown	500	----	5,6
Wytheville	White Sulfur Springs	Y	S	AS	White Sulfur Springs NFH	Domestic	2200	----	----
Wytheville	Wytheville (ERW)	N	F	----	Erwin NFH	Unknown	----	----	4,5,6,10

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - *Aeromonas salmonicida* (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis* virus; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis* Virus; OMV - *Oncorhynchus masou* virus; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 8-3. Rainbow Trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	Crowd- ing	
6F2	6F2 (CA)	915	1015	Mean No.	175.00 1	---	---	3.0 1	4.0 1	4.0 1
6F2	6F2 (CO)	---	---	Mean No.	91.00 1	1.00 1	90 1	2.0 1	1.0 1	3.0 1
Albino	Albino (UT)	---	---	Mean No.	89.00 1	3.80 1	90 1	3.0 1	4.0 1	3.0 1
Arlee	ARD/Arlee - D	1001	1231	Mean No.	52.00 1	0.90 1	82 1	3.0 1	3.0 1	3.0 1
Arlee	Arlee (CA)	815	1015	Mean No.	---	---	---	---	---	---
Arlee	Arlee (ENN)	1001	---	Mean No.	176.22 9	5.76 9	89 9	3.1 9	3.2 9	2.7 9
No. Arlee	Ennis (MN)	1001	1231	Mean No.	194.00 1	5.00 1	---	2.0 1	2.0 1	4.0 1
Arlee	Erwin (AR)	901	1231	Mean No.	---	---	---	---	---	---
Arlee	Erwin (ENN)	1001	1231	Mean No.	71.00 1	3.00 1	95 1	5.0 1	5.0 1	5.0 1
Arlee	Lost River	801	1031	Mean No.	336.00 1	8.50 1	---	5.0 1	5.0 1	5.0 1

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	Crowd- ing
Arlee	Missouri Arlee	101	331	Mean No.	243.33 3	6.50 3	90 3	3.0 3	3.0 3	3.0 3
Arlee	Shepherd of the Hills (Spring) (MO) 2	101	228	Mean No.	117.00 1	2.60 1	51 1	3.0 1	4.0 1	4.0 1
Avington	Avington (PA)	1101	115	Mean No.	340.00 1	3.80 1	80 1	4.0 1	3.0 1	3.0 1
Bellaire	Crystal River	901	1231	Mean No.	217.00 2	3.05 2	85 2	4.5 2	5.0 2	4.5 2
Beulah	Beulah (CT)	----	----	Mean No.	182.00 1	7.30 1	95 1	4.0 1	4.0 1	3.0 1
Big Lake	Big Lake (AK)	----	----	Mean No.	91.00 1	5.10 1	95 1	3.0 1	2.0 1	3.0 1
Big Spring	Big Spring (PA)	801	1130	Mean No.	----- 0	3.30 1	75 1	3.0 1	4.0 1	4.0 1
Big Spring	Oswayo/Big Spring	801	930	Mean No.	----- 0	----- 0	----- 0	3.0 1	3.0 1	3.0 1
Cape Cod	Goldendale	1001	1231	Mean No.	160.00 3	5.33 3	96 3	3.0 3	3.0 3	2.6 3
Case Western	Warm Water	101	228	Mean No.	----- 0	----- 0	----- 0	4.0 1	4.0 1	5.0 1

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	1-year	
								swim-up		
Coleman	Coleman (CA)	1101	131	Mean No.	58.50 2	1.60 2	90 2	3.0 2	3.5 2	3.0 2
Colorado River	Hayspur (ID)	201	331	Mean No.	274.00 1	23.20 1	90 1	3.0 1	3.0 1	3.0 1
Dome Rock	McDonald Stream	----	----	Mean No.	254.00 1	47.00 1	94 1	3.0 1	3.0 1	3.0 1
Donaldson	Donaldson (ME)	----	----	Mean No.	232.25 4	3.43 4	97 4	2.2 4	2.2 4	2.0 4
Donaldson	Donaldson (NE)	1101	1231	Mean No.	100.00 1	2.00 1	98 1	4.0 1	4.0 1	5.0 1
Donaldson	Donaldson (NH)	1201	228	Mean No.	----	----	----	5.0 1	4.0 1	5.0 1
Donaldson	Lost River	1101	131	Mean No.	----	1.80 1	----	----	3.0 1	----
Donaldson	Miller	1101	320	Mean No.	250.00 2	2.50 2	70 2	5.0 3	4.0 3	3.0 3
Eagle Lake	Eagle Lake (CA)	----	----	Mean No.	265.00 3	4.27 3	85 3	2.6 3	2.6 3	3.0 3
Eagle Lake	Eagle Lake (ENN)	1201	----	Mean No.	150.00 6	4.13 6	88 6	3.1 6	3.1 6	3.1 6

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	Crowd- ing
Eagle Lake	Eagle Lake (ERW)	1101	131	Mean No.	130.00 4	6.60 4	72 4	4.0 4	4.0 4	3.5 4
Eagle Lake	Tillett	----	----	Mean No.	170.00 1	3.20 1	74 1	4.0 1	3.0 1	3.0 1
Eagle Lake	Wigwam	1201	228	Mean No.	183.00 1	7.00 1	92 1	3.0 1	3.0 1	3.0 1
Emerson	Crystal Lake	901	1231	Mean No.	50.00 1	1.00 1	----	5.0 1	5.0 1	5.0 1
Ennis	McConaughy	1201	228	Mean No.	----	----	----	----	----	----
Ennis	Paint Bank	601	831	Mean No.	176.00 2	4.40 2	90 2	3.0 2	3.0 2	3.5 2
Ennis Albino	RTAB	1201	228	Mean No.	102.00 2	3.45 2	91 2	2.5 2	2.5 2	2.5 2
Ennis/Erwin	ERD/Erwin (ERW)	601	831	Mean No.	88.75 4	3.20 4	85 4	3.0 4	3.7 4	4.0 4
Erwin	Erwin (ENN)	501	----	Mean No.	108.50 6	3.55 6	88 6	3.1 6	3.5 6	3.1 6
Erwin	Erwin (ERW)	----	----	Mean No.	246.00 2	7.30 2	79 2	3.0 2	3.0 2	3.0 2

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	Crowd- ing
Erwin	Erwin (WI)	801	1031	Mean No.	340.50 2	8.35 2	92 2	2.5 2	2.5 2	3.0 2
Erwin	Erwin (WSS)	601	831	Mean No.	250.00 1	1.10 1	95 1	4.0 1	5.0 1	5.0 1
Fish Lake	Fish Lake (ENN)	1215	410	Mean No.	67.00 1	1.10 1	88 1	5.0 1	5.0 1	4.0 1
Fish Lake	Fish Lake (ERW)	-----	-----	Mean No.	58.00 1	1.80 1	82 1	3.0 1	3.0 1	3.0 1
Fish Lake/Desmet	Egan (ERW)	-----	-----	Mean No.	152.50 2	5.05 2	92 2	3.0 2	3.0 2	3.5 2
Fish Lake/Desmet	Fish Lake/Desmet (ERW)	-----	-----	Mean No.	252.00 1	12.40 1	66 1	3.0 1	3.0 1	3.0 1
Fish Lake/Desmet	RTFD	101	531	Mean No.	86.60 5	2.50 5	90 5	2.8 5	2.8 5	2.8 5
Hayspur	R9 (ID)	1001	131	Mean No.	163.75 4	4.63 4	90 4	3.7 4	4.0 4	3.7 4
Hildebrandt	Lassen	1101	228	Mean No.	80.00 1	6.40 1	----- 0	3.0 1	3.0 1	3.0 1
Hot Creek	Boulder Fall	1001	1231	Mean No.	150.00 1	3.90 1	98 1	5.0 1	5.0 1	5.0 1

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	Crowd -ing
Hot Creek	Fall Spawn	----	----	Mean No. 1	250.00 1	13.80 1	98 1	2.0 1	2.0 1	2.0 1
Hot Creek	Hot Creek (CA)	701	----	Mean No. 2	307.00 2	1.45 2	90 1	3.0 2	3.5 2	4.0 2
Hot Creek	RTH (CA) 2	1001	1120	Mean No. 0	----	1.90 1	----	3.0 1	3.0 1	3.0 1
House Creek	House Creek (ID)	----	----	Mean No. 1	101.00 1	0.80 1	90 1	5.0 1	5.0 1	5.0 1
Hybrid	EED/Erwin - Arlee (ERW)	701	1031	Mean No. 2	146.50 2	12.20 2	67 2	3.0 2	3.0 2	3.0 2
Hybrid	Huntsdale/Bellefonte	801	930	Mean No. 1	340.00 1	13.00 1	85 1	4.0 1	4.0 1	3.0 1
Hybrid	Whitney	----	----	Mean No. 2	59.50 2	1.45 2	90 2	4.0 2	3.5 2	4.0 2
Kamloops	Duncan River	101	331	Mean No. 3	149.66 3	5.33 3	92 3	3.0 3	3.3 3	3.3 3
Kamloops	Kamloops (CT)	----	----	Mean No. 1	189.00 1	7.10 1	93 1	3.0 1	3.0 1	3.0 1
Kamloops	Lake Superior	401	531	Mean No. 2	135.00 2	6.70 2	97 2	3.0 2	3.0 2	3.0 2

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	Crowd- ing
Kamloops	Luce Reservoir Kamloops	301	430	Mean No.	248.00 1	---	88 1	1.0 1	2.0 1	1.0 1
Kamloops	RTKJ	----	----	Mean No.	295.00 1	3.00 1	90 1	3.0 1	2.0 1	4.0 1
Kamloops	Skanes/Gloyd Springs	901	131	Mean No.	100.50 2	3.20 2	90 2	3.0 2	2.5 2	3.5 2
Kamloops	Spring Creek	901	1031	Mean No.	---	---	80 1	4.0 1	5.0 1	3.0 1
Kamloops	Trout Lodge (CO)	1101	228	Mean No.	---	---	---	5.0 1	5.0 1	4.0 1
Kamloops	Trout Lodge (MD)	----	----	Mean No.	100.00 2	2.50 2	90 2	2.5 2	2.5 2	2.5 2
Kettle River	Phalou Lake	401	630	Mean No.	---	---	97 1	3.0 1	---	3.0 1
Lassen	Lassen	----	----	Mean No.	36.00 1	1.00 1	84 1	4.0 1	4.0 1	4.0 1
Laurel Hill	Laurel Hill (PA)	801	1031	Mean No.	---	---	---	4.0 1	4.0 1	5.0 1
London	London (IN)	1101	1231	Mean No.	137.50 2	2.60 2	86 2	2.5 2	2.5 2	3.5 2

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	1-year -ing
London	London (OH)	1101	1231	Mean No. 1	350.00 1	6.00 1	90 1	5.0 1	4.0 1	3.0 1
Lost River	Lost River	1001	228	Mean No. 0	472.00 1	3.70 1	---- 0	5.0 1	5.0 1	5.0 0
McCloud	Cape Cod	1101	131	Mean No. 2	160.00 2	6.60 2	97 2	3.0 2	3.0 2	3.0 2
McConaughy	McConaughy (ENN)	1201	----	Mean No. 3	86.00 3	2.63 3	94 3	3.6 3	3.6 3	3.6 3
McConaughy	McConaughy (SD)	401	531	Mean No. 1	135.00 1	6.10 1	95 1	3.0 1	3.0 1	2.0 1
Missouri	Bennett Spring	1001	1231	Mean No. 1	65.00 1	2.60 1	75 1	4.0 1	5.0 1	4.0 1
Missouri	Shepherd of the Hills (Fall)	1001	1231	Mean No. 3	227.66 3	5.00 3	90 3	3.0 3	2.6 3	3.0 3
Nashua	Nashua (CT)	801	930	Mean No. 1	189.00 1	7.80 1	95 1	2.0 1	2.0 1	2.0 1
Neosho	Shasta (WSS)	1201	228	Mean No. 1	400.00 1	1.10 1	95 1	4.0 1	4.0 1	4.0 1
Nisqually	Nisqually (WA)	1201	131	Mean No. 1	318.00 1	3.00 1	92 1	3.0 1	5.0 1	4.0 1

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	1-year -ing	
Paradise	Golden	1001	331	Mean No. 1	55.00 1	0.80 1	90 1	3.0 1	3.0 1	3.0 1
Parkview	Parkview (NM)	1025	415	Mean No. 0	— 0	— 0	— 0	2.0 1	3.0 1	3.0 1
Pitt River	Pitt River (CA)	1101	131	Mean No. 1	— 0	4.10 1	95 1	4.0 1	4.0 1	4.0 1
Pleasure Valley	Pleasure Valley (WV)	801	430	Mean No. 1	— 0	— 0	50 1	— 0	— 0	— 0
Reynoldsdale	Reynoldsdale (PA)	801	1031	Mean No. 1	156.00 1	6.00 1	96 1	4.0 1	5.0 1	5.0 1
Sacramento River	Coleman	1101	131	Mean No. 1	600.00 1	1.00 1	— 0	4.0 1	5.0 1	5.0 1
Sand Creek	RTSC	901	1231	Mean No. 3	141.00 3	— 3	97 3	2.3 3	2.3 3	2.3 3
Shasta	ELT	1201	331	Mean No. 1	200.00 1	2.00 1	— 0	2.0 1	3.0 1	3.0 1
Shasta	RTS	1201	331	Mean No. 2	57.00 1	1.80 1	87 2	3.0 2	2.5 2	2.5 2
Shasta	Shasta (ENN)	1201		Mean No. 4	100.00 4	7.05 4	92 4	4.0 4	3.7 4	3.5 4

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	Crowd -ing
Shasta	Shasta (ERW)	1201	131	Mean No.	35.00 1	1.20 1	85 1	3.0 1	3.0 1	3.0 1
Shasta	Shasta (IA)	1201	228	Mean No.	160.00 1	2.00 1	90 1	4.0 1	4.0 1	4.0 1
Shepherd of the Hills	RTSH	----	----	Mean No.	73.00 1	2.30 1	95 1	3.0 1	3.0 1	3.0 1
Shepherd of the Hills	Shepherd of the Hills	1101	228	Mean No.	133.00 1	2.20 1	97 1	3.0 1	3.0 1	4.0 1
Strohman	Greensprings (PA)	801	1031	Mean No.	----	----	----	4.0 1	4.0 1	4.0 1
Swanson	Swanson (AK)	401	430	Mean No.	57.00 2	4.55 2	96 2	3.5 2	3.0 2	3.5 2
Tahoe	Marlette Lake (NV)	601	731	Mean No.	114.00 1	6.10 1	----	2.0 1	3.0 1	2.0 1
Tasmanian	Glenwood Spring	----	----	Mean No.	39.00 1	3.50 1	88 1	4.0 1	5.0 1	5.0 1
Tasmanian	Tasmanian (CO)	1101	228	Mean No.	161.50 2	5.20 1	90 1	4.5 2	4.5 2	3.0 2
Tasmanian	Tasmanian (NV)	1201	228	Mean No.	196.00 4	9.53 4	94 4	3.0 4	2.5 4	2.2 4

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling		
								swim-up	1-year	Crowd -ing
Ten Sleep	Ten Sleep (UT)	1001	131	Mean No.	145.50 2	3.95 2	95 2	2.0 2	2.0 2	2.0 2
Trophy Fish Ranch	Sevier Valley	801	331	Mean No.	69.00 1	3.00 1	98 1	4.0 1	4.0 1	5.0 1
Trout Lodge	Pisgah	1001	1130	Mean No.	179.00 2	2.65 2	73 2	3.5 2	3.0 2	3.0 2
Trout Lodge	Red-eyed Golden	301	430	Mean No.	90.00 2	1.00 2	95 2	5.0 2	5.0 2	5.0 2
Trout lodge	Trout lodge	----	----	Mean No.	210.50 2	2.15 2	86 2	5.0 2	4.0 2	3.5 2
White Sulfur Springs	White Sulfur Springs (CT)	----	----	Mean No.	206.00 1	7.40 1	95 1	3.0 1	3.0 1	3.0 1
Whitney	RTW	----	----	Mean No.	81.00 2	2.15 2	88 2	2.5 2	2.0 2	1.5 2
Whitney	Whitney (WA)	101	331	Mean No.	346.66 3	6.75 2	90 3	3.3 3	3.6 3	3.6 3
Wilson Pond	Wilson Pond - LB (ME)	901	1031	Mean No.	51.00 1	24.00 1	52 1	4.0 1	4.0 1	4.0 1
Winthrop	Winthrop (GA)	1201	131	Mean No.	300.00 1	11.50 1	80 1	3.0 1	4.0 1	4.0 1

Table 8-3. Rainbow Trout - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	swim-up	Crowd- ing
WV State Hatchery	Golden	1101	1231	Mean No.	90.00 1	1.00 1	95 1	5.0 1	5.0 1	5.0 1
Wytheville	Domestic (F)	----	----	Mean No.	200.00 1	4.30 1	80 1	3.0 1	2.0 1	3.0 1
Wytheville	Pequest	901	1031	Mean No.	175.00 1	4.50 1	75 1	3.0 1	3.0 1	3.0 1
Wytheville	Petersburg	801	1031	Mean No.	110.00 2	3.60 2	98 2	3.0 2	3.0 2	3.0 2
Wytheville	Pisgah	901	1015	Mean No.	406.00 1	3.60 1	79 1	3.0 1	3.0 1	3.0 1
Wytheville	White Sulfur Springs	901	1031	Mean No.	240.00 2	2.70 2	84 2	3.5 2	4.5 2	3.0 2
Wytheville	Wytheville (ERW)	----	----	Mean No.	190.25 4	7.98 4	86 4	2.7 4	3.0 4	2.7 4

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 8-4. Rainbow trout – Disease resistance rating (relative ratings¹⁾) of reported broodstocks for nine common salmonid diseases.

Strain	Broodstock	Salmonid diseases ²⁾								
		1	2	3	4	5	6	7	8	9
6F2	6F2 (CA)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
6F2	6F2 (CO)	Mean No.	1.0 1	2.0 1	---	---	---	---	4.0 1	---
		1	1	0	0	0	0	0	0	0
Albino	Albino (UT)	Mean No.	2.0 1	2.0 1	---	2.0 1	2.0 1	2.0 1	2.0 1	---
		1	1	1	0	1	1	1	1	0
Arlee	ARD/Arlee - D	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Arlee	Arlee (CA)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Arlee	Arlee (ENN)	Mean No.	3.0 3	3.5 2	3.3 3	---	3.0 2	---	3.0 2	3.0 1
		3	2	3	0	2	0	0	2	1
Arlee	Ennis (MN)	Mean No.	---	3.0 1	3.0 1	---	---	---	4.0 1	4.0 1
		0	1	1	0	0	0	0	1	1
Arlee	Erwin (ENN)	Mean No.	---	---	---	---	---	---	4.0 1	4.0 1
		0	0	0	0	0	0	0	1	1
Arlee	Jocko (MT)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Arlee	Lost River	Mean No.	---	3.0 1	---	---	---	---	---	---
		0	1	0	0	0	0	0	0	0
Arlee	Missouri Arlee	Mean No.	2.0 3	1.0 3	---	---	---	---	4.0 3	3.0 1
		3	3	0	0	0	0	0	3	1

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Arlee	Shepherd of the Hills (Spring) (MO) 2	Mean No. 5.0 1	5.0 1	— 0	— 0	— 0	— 0	— 0	3.0 1	4.0 1
Avington	Avington (PA)	Mean No. — 0	— 0	— 0	— 0	— 0	— 0	— 0	3.0 1	3.0 1
Beitey	Beitey (WA)	Mean No. — 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Bellaire	Crystal River	Mean No. 4.0 1	4.0 1	5.0 0	— 1	4.0 0	— 1	2.0 2	4.5 2	3.5 2
Beulah	Beulah (CT)	Mean No. — 0	— 0	3.0 1	— 0	— 0	— 0	— 0	3.0 1	— 0
Big Lake	Big Lake (AK)	Mean No. 3.0 1	3.0 1	— 0	— 0	— 0	— 0	— 0	3.0 1	— 0
Big Spring	Big Spring (PA)	Mean No. 2.6 3	3.0 1	— 0	— 0	3.0 3	— 0	— 0	3.0 3	— 0
Big Spring	Oswayo/Big Spring	Mean No. 4.0 1	4.0 1	— 0	— 0	3.0 1	— 0	— 0	3.0 1	— 0
Cape Cod	Goldendale	Mean No. 1.0 1	2.0 1	3.0 1	— 0	— 0	— 0	4.0 1	3.5 2	— 0
Case Western	Warm Water	Mean No. 4.0 1	3.0 1	— 0	— 0	— 0	— 0	— 0	2.0 1	3.0 1
Coleman	Coleman (CA)	Mean No. — 0	— 0	4.5 2	5.0 1	4.0 1	— 0	— 0	3.3 6	— 0

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Colorado River	Hayspur (ID)	Mean No.	3.0 1	3.0 1	3.0 1	---	---	---	2.5 2	2.5 2
Dome Rock	McDonald Stream	Mean No.	---	---	---	---	---	---	3.0 1	2.0 1
Donaldson	Donaldson (ME)	Mean No.	---	---	---	---	---	---	---	---
Donaldson	Donaldson (NE)	Mean No.	---	---	---	---	---	---	3.0 1	4.0 1
Donaldson	Donaldson (NH)	Mean No.	---	---	---	---	---	---	4.0 1	---
Donaldson	Lost River	Mean No.	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1
Donaldson	Miller	Mean No.	---	5.0 1	---	---	---	---	---	---
Eagle Lake	Eagle Lake (CA)	Mean No.	3.0 1	2.0 4	4.2 4	5.0 4	---	---	3.2 5	---
Eagle Lake	Eagle Lake (ENN)	Mean No.	2.0 1	2.0 1	---	---	---	---	3.3 6	2.0 2
Eagle Lake	Eagle Lake (ERW)	Mean No.	3.0 1	3.0 2	3.5 2	4.0 1	3.0 1	3.0 1	3.0 2	---
Eagle Lake	Eagle Lake (MI)	Mean No.	3.0 1	3.0 1	---	---	---	---	3.0 1	---

Table 8-4. Rainbow trout – Continued.

		Salmonid diseases ^{2J}								
Strain	Broodstock	1	2	3	4	5	6	7	8	9
Fish Lake	Fish Lake (ENN)	Mean No.	— 0	— 0	— 0	— 0	— 0	— 0	— 0	— 0
Fish Lake	Fish Lake (ERW)	Mean No.	— 0	— 0	3.0 1	— 0	4.0 1	— 0	— 0	— 0
Fish Lake/Desmet	Egan (ERW)	Mean No.	2.5 1	2.0 1	2.0 1	— 0	3.0 1	2.0 1	2.6 3	3.5 2
Fish Lake/Desmet	Fish Lake/Desmet (ERW)	Mean No.	4.0 0	— 0	4.0 1	— 0	— 0	— 0	— 0	— 0
Fish Lake/Desmet	RTFD	Mean No.	2.0 4	2.0 4	2.0 4	— 0	2.0 4	2.0 4	2.7 7	— 0
Hayspur	R9 (ID)	Mean No.	— 0	2.6 3	— 0	— 0	3.6 3	3.0 2	3.2 4	3.0 2
Hildebrandt	Lassen	Mean No.	— 0	3.0 1	— 0	— 0	— 0	— 0	— 0	— 0
Hot Creek	Boulder Fall	Mean No.	5.0 1	— 0	— 0	— 0	— 0	— 0	4.0 1	— 0
Hot Creek	Fall Spawn	Mean No.	— 0	2.0 1	— 0	— 0	— 0	— 0	3.0 1	— 0
Hot Creek	Hot Creek (CA)	Mean No.	— 0	— 0	4.0 1	— 0	— 0	— 0	3.5 8	3.0 1
Hot Creek	RTH (CA) 2	Mean No.	3.0 1	2.0 1	3.0 1	5.0 1	— 0	— 0	3.0 1	— 0

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Mean No.	Salmonid diseases ^{2J}								
			1	2	3	4	5	6	7	8	9
Kamloops	Skanes/Gloyd Springs	Mean No.	---	3.0 1	---	---	---	---	3.0 1	3.0 2	2.0 1
Kamloops	Spring Creek	Mean No.	---	---	4.0 1	---	---	---	---	3.0 1	---
Kamloops	Trout Lodge	Mean No.	---	---	---	---	---	---	---	---	---
Kamloops	Trout Lodge (CO)	Mean No.	4.0 1	---	3.0 1	---	---	---	---	3.0 1	---
Kamloops	Trout Lodge (MD)	Mean No.	3.3 1	5.0 1	---	---	1.0 1	1.0 1	---	3.0 4	---
Kamloops	Trout Lodge (NY)	Mean No.	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1
Kamloops	Trout Lodge (WI)	Mean No.	---	---	---	---	---	---	---	4.0 1	---
Kettle River	Phalou Lake	Mean No.	---	---	---	---	---	---	---	---	---
Lassen	Lassen	Mean No.	---	---	4.0 1	---	---	---	---	4.0 2	---
Laurel Hill	Laurel Hill (PA)	Mean No.	3.0 1	3.0 1	---	---	---	---	---	3.0 1	3.0 1
London	London (IN)	Mean No.	3.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 1	5.0 2	3.0 1	5.0 1

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2J}								
		1	2	3	4	5	6	7	8	9
Nisqually	Nisqually (WA)	Mean No.	3.0 1	3.0 1	---	---	---	---	3.0 1	---
Paradise	Golden	Mean No.	3.0 1	3.0 1	---	---	---	5.0 1	3.0 1	3.0 1
Parkview	Parkview (NM)	Mean No.	4.0 1	4.0 1	2.5 2	---	---	---	3.0 2	3.0 1
Pit River	Pit River (CA)	Mean No.	---	---	3.0 2	1.0 2	---	---	3.0 2	---
Pleasure Valley	Pleasure Valley (WV)	Mean No.	---	---	---	---	---	---	---	---
Reynoldsdale	Reynoldsdale (PA)	Mean No.	3.0 2	3.0 2	5.0 1	5.0 1	3.0 2	5.0 1	2.5 2	4.0 1
Sacramento River	Coleman	Mean No.	---	---	---	---	---	---	3.0 2	---
Sand Creek	RTSC	Mean No.	2.2 5	2.2 5	2.2 5	3.0 1	2.2 5	2.2 5	3.0 9	4.0 1
Shasta	ELT	Mean No.	---	---	4.0 1	5.0 1	---	---	4.0 1	3.0 1
Shasta	RTS	Mean No.	3.0 1	2.5 2	3.3 3	3.6 3	---	---	3.0 3	2.0 1
Shasta	Shasta (ENN)	Mean No.	2.5 2	2.0 2	5.0 1	5.0 1	---	---	3.3 6	3.0 1

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Shasta	Shasta (ERW)	Mean No.	---	0	0	0	0	0	0	0
Shasta	Shasta (IA)	Mean No.	3.5 2	---	0	0	0	0	3.0 2	---
Shepherd of the Hills	RTSH	Mean No.	---	0	0	0	0	0	---	0
Shepherd of the Hills	Shepherd of the Hills	Mean No.	2.0 3	2.0 3	2.0 3	2.0 3	2.0 3	2.0 3	2.7 8	4.0 1
Stroh	Greensprings (PA)	Mean No.	---	0	3.0 1	---	---	---	3.0 1	3.0 1
Swanson	Swanson (AK)	Mean No.	3.0 1	3.0 1	---	---	---	---	3.0 1	---
Tahoe	Marlette Lake (NV)	Mean No.	---	1.0 1	---	---	---	---	1.0 1	3.0 1
Tasmanian	Glenwood Spring	Mean No.	---	0	0	0	0	0	3.0 1	---
Tasmanian	Tasmanian (CO)	Mean No.	4.0 1	4.0 1	4.0 1	4.0 1	---	3.0 1	4.0 3	2.5 2
Tasmanian	Tasmanian (NV)	Mean No.	---	0	0	0	0	0	2.7 4	3.0 1
Ten Sleep	Ten Sleep (UT)	Mean No.	2.0 5	2.0 5	2.0 5	2.0 5	2.0 5	2.0 5	2.6 9	4.0 2

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2J}								
		1	2	3	4	5	6	7	8	9
Trophy Fish Ranch	Sevier Valley	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Trout Haven	Trout Haven	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Trout Lodge	Pisgah	Mean No.	3.0 2	---	---	4.0 2	---	---	3.0 1	---
		2	0	2	0	2	0	0	1	0
Trout Lodge	Red-eyed Golden	Mean No.	5.0 1	---	---	---	---	---	3.0 2	---
		1	0	0	0	0	0	0	2	0
Trout lodge	Trout lodge	Mean No.	4.5 2	4.5 2	4.5 2	4.5 2	4.5 2	4.5 2	3.5 4	4.5 2
		2	2	2	2	2	2	2	4	2
Watson	Watson	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
White Sulfur Springs	White Sulfur Springs (CT)	Mean No.	---	---	3.0 1	---	---	---	3.0 1	---
		0	0	1	0	0	0	0	1	0
Whitney	RTW	Mean No.	3.0 1	2.0 3	3.5 2	5.0 1	---	---	3.0 6	3.0 2
		1	3	2	1	1	0	0	6	2
Whitney	Whitney (WA)	Mean No.	3.5 2	5.0 1	4.0 2	5.0 1	5.0 1	5.0 1	4.0 3	4.0 1
		2	1	2	1	1	1	1	3	1
Wilson Pond	Wilson Pond - LB (ME)	Mean No.	---	---	---	---	---	---	---	---
		0	0	0	0	0	0	0	0	0
Winthrop	Winthrop (GA)	Mean No.	3.0 2	2.5 2	3.0 2	---	---	---	---	3.0 1
		2	2	2	0	2	0	0	0	1

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
WV State Hatchery	Golden	Mean No.	3.0 1	---	---	---	---	---	3.0 1	---
Wytheville	Domestic (F)	Mean No.	1.0 1	---	---	4.0 1	4.0 1	---	---	---
Wytheville	Pequest	Mean No.	---	---	---	---	---	---	3.0 1	3.0 1
Wytheville	Petersburg	Mean No.	---	---	---	3.0 1	---	---	2.0 2	---
Wytheville	Pisgah	Mean No.	1.0 1	---	4.0 1	4.0 1	---	---	3.0 1	---
Wytheville	White Sulfur Springs	Mean No.	5.0 1	---	---	---	---	---	3.5 2	3.0 1
Wytheville	Wytheville (ERW)	Mean No.	2.6 3	4.0 1	3.0 1	---	4.0 2	---	3.5 4	---

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yerinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 8-5. Rainbow trout – Eight selected post-stocking field performance traits (relative ratings¹¹) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to										
		Survival					Growth					Angling suscep- tibility	Tendency to migrate				Temper- ature > 70 °C	pH < 5.0				Catch & release
		90 days					Over-winter						R	L	R	L		R	L	R	L	
		R	L	R	L	R	L	R	L	R	L											
6F2	6F2 (CA)	Mean No.	3.0 1	0 0	0 0	0 0	0 0	0 0	0 0	3.0 1	0 0	3.0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
6F2	6F2 (CO)	Mean No.	3.0 1	0 0	3.0 1	0 0	4.0 1	0 0	4.0 1	4.0 1	0 0	4.0 1	0 0	0 0	4.0 1	0 0	0 0	0 0	0 0	0 0	0 0	
Albino	Albino (UT)	Mean No.	3.0 1	0 0	1.0 1	0 0	0 0	0 0	0 0	4.0 1	0 0	4.0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
Arlee	Arlee (CA)	Mean No.	0 0	0 0	0 0	0 0	0 0	0 0	0 0	4.0 1	0 0	4.0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
Arlee	Arlee (ENN)	Mean No.	2.0 1	0 0	0 0	0 0	0 0	0 0	0 0	5.0 1	0 0	5.0 1	0 0	0 0	2.0 1	0 0	0 0	0 0	0 0	0 0	0 0	
Arlee	Erwin (AR)	Mean No.	3.0 2	0 0	3.0 2	0 0	3.5 2	0 0	3.5 2	3.5 2	0 0	3.5 2	0 0	3.0 2	3.0 1	0 0	0 0	0 0	0 0	3.0 1	0 0	
Arlee	Jocko (MT)	Mean No.	4.0 1	0 0	3.0 1	0 0	4.0 1	0 0	4.0 1	4.0 1	0 0	4.0 1	0 0	0 0	1.0 1	0 0	0 0	0 0	0 0	0 0	0 0	
Arlee	Missouri Arlee	Mean No.	4.0 1	0 0	3.0 1	0 0	4.0 1	0 0	4.0 1	3.0 1	0 0	3.0 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
Bellaire	Crystal River	Mean No.	1.0 1	4.0 1	1.0 1	3.0 1	0 0	3.0 1	3.0 1	4.0 1	3.0 1	4.0 1	0 0	0 0	3.0 1	0 0	0 0	0 0	3.0 1	0 0	0 0	

Table 8-4. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to							
		Survival				Growth		Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release			
		90 days		Over-winter		R	L					R	L		
		R	L	R	L									R	L
Beulah	Beulah (CT)	Mean No.	4.0 1	0	0	0	0	3.0 1	0	0	0	0	0	0	0
Big Lake	Big Lake (AK)	Mean No.	4.0 1	0	2.0 1	0	2.0 1	3.0 1	4.0 1	2.0 1	2.0 1	0	1	0	0
Cape Cod	Goldendale	Mean No.	3.6 3	4.0 1	3.0 3	3.0 1	3.6 3	3.0 1	3.0 3	2.0 3	1.0 1	0	0	3.0 1	3.0 1
Coleman	Coleman (CA)	Mean No.	3.0 4	5.0 1	3.3 3	4.0 1	3.2 4	4.0 1	2.6 3	2.5 2	3.0 1	3.0 1	0	0	0
Colorado River	Hayspur (ID)	Mean No.	4.0 1	4.0 1	4.0 1	4.0 1	4.0 1	4.0 1	1.0 1	3.0 1	3.0 1	3.0 1	1	1	3.0 1
Desmet	Desmet (MT)	Mean No.	3.5 2	0	3.0 2	0	3.0 2	1.5 2	4.0 1	0	0	0	0	0	0
Dome Rock	McDonald Stream	Mean No.	4.0 1	0	4.0 1	0	3.0 1	0	0	0	0	0	0	0	0
Donaldson	Donaldson (ME)	Mean No.	0 0	0	2.0 1	0	3.0 1	3.0 1	0	0	0	0	0	0	0
Donaldson	Donaldson (NH)	Mean No.	4.0 1	0	4.0 1	0	3.0 1	0	3.0 1	4.0 1	0	0	0	4.0 1	0
Donaldson	Miller	Mean No.	0 0	1	5.0 0	0	5.0 0	1	0	1.0 1	1.0 1	0	0	1.0 1	1.0 1

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to										
		Survival				Growth		Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release						
		90 days		Over-winter		R	L					R	L	R	L			
		R	L	R	L											R	L	R
Eagle Lake	Eagle Lake (CA)	Mean No.	4.0 1	0	---	4.0 1	0	---	3.0 1	0	---	3.0 1	0	---	2.0 1	0	---	0 0
Eagle Lake	Eagle Lake (ENN)	Mean No.	3.0 1	0	---	3.0 1	0	---	4.0 1	0	---	4.0 1	0	---	3.0 1	0	---	4.0 1
Eagle Lake	Eagle Lake (MI)	Mean No.	3.0 1	0	---	3.0 1	0	---	4.0 1	0	---	3.0 1	0	---	---	0	0	---
Eagle Lake	Tillett	Mean No.	3.0 1	0	---	4.0 1	0	---	4.0 1	0	---	3.0 1	0	---	4.0 1	0	---	0 0
Eagle Lake	Wigwam	Mean No.	3.0 1	1	1	3.0 1	1	1	3.0 1	1	1	3.0 1	1	1	---	0	0	3.0 1
Emerald Lake	Emerald Lake (CO)	Mean No.	3.0 1	0	---	3.0 1	0	---	2.0 1	0	---	4.0 1	0	---	2.0 1	0	---	---
Emerson	Crystal Lake	Mean No.	4.2 5	0	---	2.7 4	0	---	3.7 4	0	---	3.2 5	0	---	3.2 5	0	2.5 4	3.0 1
Ennis	Paint Bank	Mean No.	4.0 2	0	---	1.0 2	0	---	---	0	---	4.0 2	0	---	1.0 2	0	---	---
Ennis/Erwin	ERD/Erwin (ERW)	Mean No.	3.0 1	0	---	3.0 1	0	---	4.0 1	0	---	4.0 1	0	---	3.0 1	0	---	4.0 1
Erwin	Erwin (ENN)	Mean No.	3.0 4	0	---	2.6 3	0	---	3.2 4	0	---	3.2 4	0	---	2.0 1	0	3.0 1	---

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to								
		Survival			Growth			Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release				
		90 days		Over-winter	R		L						R		L	
		R	L		R	L	R	L	R	L	R	L	R	L		
Erwin	Erwin (WI)	Mean No.	4.0 1	0	2.0 1	0	4.0 1	0	3.0 1	0	2.0 1	0	4.0 1	0	3.0 1	0
Fish Lake/Desmet	Egan (ERW)	Mean No.	2.0 1	0	0	0	0	0	5.0 1	0	2.0 1	0	0	0	0	0
Fish Lake/Desmet	Fish Lake/Desmet (ERW)	Mean No.	3.0 1	0	3.0 1	0	4.0 1	0	3.0 1	0	3.0 1	0	3.0 1	0	3.0 1	0
Fish Lake/Desmet	RTFD	Mean No.	2.5 2	0	2.0 2	0	3.0 2	0	3.0 2	0	3.0 1	0	0	0	0	0
Hayspur	R9 (ID)	Mean No.	3.6 3	4.0 2	3.0 3	3.5 2	3.0 3	3.5 2	4.3 3	3.0 2	3.0 2	3.5 1	4.0 3	3.0 2	0	0
Hot Creek	Boulder Fall	Mean No.	3.0 1	4.0 1	2.0 1	3.0 1	3.0 1	4.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0 1	3.0
Hot Creek	Fall Spawn	Mean No.	3.0 1	0	3.0 1	0	3.0 1	0	4.0 1	0	4.0 1	0	0	0	0	0
Hot Creek	Hot Creek (CA)	Mean No.	3.6 5	4.0 1	1.6 3	0	3.6 5	4.0 1	4.4 5	1.0 1	3.2 4	0	3.0 1	3.0 1	0	0
Hot Creek	RTH (CA) 2	Mean No.	3.0 1	0	2.0 1	0	3.0 1	0	3.0 2	0	3.0 1	0	3.0 1	0	0	0
House Creek	House Creek (ID)	Mean No.	5.0 0	1	5.0 0	1	5.0 0	1	5.0 0	1	5.0 0	1	5.0 0	1	5.0 0	1

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to										
		Survival			Growth			Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0	Catch & release						
		90 days			Over-winter							R	L	R	L			
		R	L		R	L										R	L	R
Hybrid	Whitney	Mean No.	3.0	4.0	2.0	3.0	3.0	3.0	4.0	4.0	---	---	1.0	4.0	---	---	1.0	---
Kamloops	Duncan River	Mean No.	2.0	---	2.0	---	4.0	---	3.0	---	2.0	---	---	---	---	---	---	---
Kamloops	Kamloops (CT)	Mean No.	3.0	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---
Kamloops	Lake Superior	Mean No.	3.0	4.0	3.0	3.0	4.0	4.0	4.0	5.0	4.0	4.0	---	---	3.0	---	---	5.0
Kamloops	Luce Reservoir Kamloops	Mean No.	2.5	4.0	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	---	---	---	---	3.0	3.0
Kamloops	RTKJ	Mean No.	4.0	---	4.0	---	3.0	---	3.0	---	---	---	3.0	---	---	---	---	---
Kamloops	Skanes / Gloyd Springs	Mean No.	3.0	4.0	3.5	4.0	3.5	4.0	3.5	4.0	3.0	3.0	3.5	3.0	2.0	2.0	3.0	3.0
Kamloops	Spring Creek	Mean No.	---	---	---	---	5.0	---	---	---	---	---	---	---	---	---	---	---
Kamloops	Trout Lodge (CO)	Mean No.	4.0	---	3.0	---	4.0	---	3.0	---	3.0	---	3.0	---	3.0	---	---	---
Kamloops	Trout Lodge (MD)	Mean No.	2.5	4.0	1.0	---	1.0	---	3.0	3.0	3.0	3.0	3.0	5.0	---	---	3.0	---

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to								
		Survival						Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0		Catch & release			
		90 days		Over-winter		Growth										
		R	L	R	L	R	L								R	L
Kettle River	Phalou Lake	Mean	4.0	---	3.0	---	3.0	---	3.0	---	2.0	---	3.0	---	3.0	---
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0
London	London (IN)	Mean	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	---	4.0	4.0	---	---
		No.	1	1	1	1	1	1	1	1	1	1	0	1	1	0
London	London (OH)	Mean	---	---	3.0	---	3.0	---	5.0	---	2.0	---	5.0	---	3.0	---
		No.	0	0	0	1	0	1	0	1	0	1	0	1	0	0
Manchester	Manchester (IA)	Mean	4.0	---	4.0	---	4.0	---	4.0	---	---	---	---	---	---	---
		No.	1	0	1	0	1	0	1	0	0	0	0	0	0	0
McCloud	Shasta	Mean	---	3.0	---	1.0	---	---	---	3.0	---	---	---	---	---	---
		No.	0	1	0	1	0	1	0	1	0	0	0	0	0	0
McCloud	South Tacoma	Mean	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	3.0	---	---	---
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0
McConaughy	McConaughy (ENN)	Mean	4.0	---	3.0	---	3.0	---	3.0	---	5.0	---	3.0	---	---	---
		No.	2	0	2	0	2	0	2	0	1	0	1	0	1	0
McConaughy	McConaughy (SD)	Mean	---	---	---	---	---	3.0	---	---	---	5.0	---	---	---	3.0
		No.	0	0	0	0	0	1	0	1	0	1	0	1	0	0
Missouri	Bennett Spring	Mean	4.0	---	3.0	---	3.0	---	4.5	---	3.0	---	3.0	---	4.0	---
		No.	2	0	1	0	2	0	2	0	1	0	1	0	1	0
Missouri	Shepherd of the Hills (Fall)	Mean	4.0	---	3.0	---	4.0	---	3.0	---	---	---	---	---	---	---
		No.	1	0	1	0	1	0	1	0	0	0	0	0	0	0

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking										Tolerance to																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Survival					Growth					Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH		Catch & release																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Nashua	Nashua (CT)	Mean No.	3.0 1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---</

Table 8-5. Rainbow trout — Continued.

Strain	Broodstock	Post stocking										Tolerance to									
		Survival					Growth					Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH < 5.0		Catch & release				
		90 days		Over-winter											R	L	R	L	R	L	
		R	L	R	L	R	L	R	L	R	L	R	L	R							L
White Sulfur Springs	White Sulfur Springs (CT)	Mean No.	2.0	1	0	---	---	---	---	---	---	3.0	---	---	---	---	---	---	---	---	---
Whitney	RTW	Mean No.	3.5	4	2	4.0	3.0	2	0	3.2	4.0	4.0	4.5	2.0	---	4.0	---	---	---	---	---
Whitney	Whitney (WA)	Mean No.	3.5	2	0	---	3.0	2	0	3.5	---	3.5	---	---	---	3.0	---	---	---	---	---
Winthrop	Winthrop (GA)	Mean No.	4.0	2	0	---	3.0	2	0	3.0	---	3.0	---	2.0	---	---	---	---	---	---	---
Wytheville	Domestic (F)	Mean No.	4.0	1	0	---	1.0	1	0	3.0	---	5.0	---	1.0	---	4.0	---	---	---	---	---
Wytheville	Pequest	Mean No.	---	0	0	---	---	3.0	0	1	0	1	4.0	---	---	4.0	4.0	---	---	---	3.0
Wytheville	Petersburg	Mean No.	---	0	0	---	---	---	0	0	0	0	5.0	---	---	1.0	---	---	---	---	---
Wytheville	Pisgah	Mean No.	3.0	1	0	---	2.0	1	0	3.0	---	3.0	---	3.0	---	3.0	---	---	---	---	---
Wytheville	White Sulfur Springs	Mean No.	3.0	1	1	3.0	3.0	2.0	1	1	0	1	2.0	---	---	---	---	---	---	---	---
Wytheville	Wytheville (ERW)	Mean No.	2.0	2	0	---	1.0	1	0	3.0	---	5.0	---	2.0	---	3.0	---	---	---	---	---

Table 8-5. Rainbow trout – Continued.

Strain	Broodstock	Post stocking						Tolerance to						
		Survival			Growth			Angling susceptibility	Tendency to migrate	Temperature > 70 °C	pH < 5.0	Catch & release		
		90 days			Over-winter									
		R	L		R	L								
		R	L		R	L		R	L		R	L		

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 9-1. Steelhead trout - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Crystal Creek	Crystal Creek (AK)	Gary Wall	Fort Richardson SFH, P.O. Box 5267, Anchorage, AK 99505	Ph. 907-428-1348 Fax
Crystal Creek	Crystal Creek (AK)	Gary Wall	Crystal Lake SFH, P.O. Box 1088, Petersburg, AK 99833	Ph. 907-772-4772 Fax
Feather River	Feather River (CA)	Anna Kastner	CA Dept. F&G, Feather River SFH, 5 Table Mountain Blvd., Oroville, CA 95965	Ph. 530-538-2222 Fax 530-532-0573
Ganaraska	Ganaraska	Randall Link	WI DNR, Kettle Moraine Fish Hatchery, N1929 Trout Spring Road, Adell, WI 53001	Ph. 920-528-8825 Fax 920-528-8852
Manistee River	Winter Run	Tom Schwartz	Mixsawbah SFH, 5500 S. 675 E., Walkerton, IN 46574	Ph. 219-369-9591 Fax 219-369-9496
Nimbus	Nimbus (CA)	Jerry West	CA Dept. F&G, Nimbus SFH, 2001 Nimbus Road, Rancho Cordova, CA 95670	Ph. 916-358-2820 Fax 916-358-1466
Pennsylvania	Lake Erie	Larry Hines	Tionesta FCS, HC2, Box 1, Tionesta, PA 16353	Ph. 814-755-3524 Fax
Russian	Warm Springs	Royce Gunter, Jr.	Warm Springs SFH, 3246 Skaggs Springs Road, Geyserville, CA 95441-9643	Ph. 707-433-6325 Fax 707-433-8146
Skamania	Lake Ontario / Beaver Dam Brook	Alan Mack	Caledonia SFH, 16 North Street, Caledonia, NY 14423-1033	Ph. 716-538-6300 Fax 716-538-9293
Skamania	Skamania (IN)	Brian Breident	Bodine Fish Hatchery, 13200 East Jefferson Road, Mishawaka, IN 46545	Ph. 219-255-4199 Fax 219-257-0462
Skamania	Summer Run (IN)	Brian Breident	Bodine Fish Hatchery, 13200 East Jefferson Road, Mishawaka, IN 46545	Ph. 219-255-4199 Fax 219-257-0462

Table 9-2. Steelhead trout - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
Crystal Creek	Crystal Creek (AK)	N	S	----	Crystal Lake SFH	Wild	----	----	----
Crystal Creek	Crystal Creek (AK)	N	S	----	Crystal Lake SFH	Wild	----	----	----
Feather River	Feather River (CA)	N	S	----	----	Unknown	----	----	7,8,9,10
Ganaraska	Ganaraska	N	S	----	----	Unknown	----	----	7,8
Manistee River	Winter Run	N	S	----	Mixsawbah SFH	Domestic	----	----	1,2,3,4,10
Nimbus	Nimbus (CA)	N	S	----	Nimbus SFH	Wild	----	----	7,8
Pennsylvania	Lake Erie	N	S	----	Tionesta FCS	Unknown	----	----	7,8
Russian	Warm Springs	L	S	----	Russian, Eel and Mad Rivers	Unknown	----	2,3	7,8,9,10
Skamania	Lake Ontario/ Beaver Dam Brook	L	S		Returning fish from Lake Ontario captured in Beaver Dam Brook at Salmon River Fish Hatchery	Wild	15	----	----
Skamania	Skamania (IN)	N	S	----	----	Unknown	----	----	3,4,7,8
Skamania	Summer Run (IN)	L	S	RS	Skamania SFH	Wild	----	1	3,4,7,8,10
Granite Creek	Lake Pend Oreille	N	S	----	----	Wild	----	----	----

Table 9-2. Steelhead trout - Continued.

Strain	Broodstock	Avail- ^{1/} Ability	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommend- ation ^{6/}
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^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - *Aeromonas salmonicida* (Furunculosis); RD - Renibacterium salmonarum, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis virus*; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis Virus*; OMV - *Oncorhynchus masou virus*; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 9-3. Steelhead Trout - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}			Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling			
								swim-up	1-year	Crowd -ing	
Feather River	Feather River (CA)	110	315	Mean No.	227.00 2	4.00 2	85 2	1.0 2	2.0 2	3.0 2	3.0 2
Ganaraska	Ganaraska	---	---	Mean No.	178.00 1	9.60 1	85 1	3.0 1	4.0 1	4.0 1	4.0 1
Nimbus	Nimbus (CA)	---	---	Mean No.	56.00 1	3.00 1	97 1	3.0 1	3.0 1	4.0 1	3.0 1
Pennsylvania	Lake Erie	---	---	Mean No.	500.00 1	14.20 1	85 1	1.0 1	1.0 1	1.0 1	1.0 1
Russian	Warm Springs	1201	430	Mean No.	100.00 1	4.00 1	98 1	5.0 1	5.0 1	5.0 1	5.0 1
Skamania	Lake Ontario/ Beaver Dam Brook	101	228	Mean No.	343.00 1	12.00 1	90 1	3.0 1	3.0 1	2.0 1	2.0 1
Skamania	Skamania (IN)	---	---	Mean No.	290.00 1	10.60 1	72 1	3.0 1	3.0 1	4.0 1	4.0 1
Skamania	Summer Run (IN)	101	331	Mean No.	124.00 2	5.80 2	93 2	3.5 2	4.0 2	3.0 2	3.0 2

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 9-4. Steelhead Trout— Disease resistance rating (relative ratings^{1/}) of reported broodstocks for nine common salmonid diseases.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Skamania	Summer Run (IN)	Mean No.	3.6 3	3.3 3	3.0 1	3.0 1	3.0 1	3.0 1	3.0 3	3.0 1

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yerinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 9-5. Steelhead Trout – Eight selected post-stocking field performance traits (relative ratings^{1/}) for reported broodstocks in riverine and lacustrine habitats.

Strain	Broodstock	Post stocking										Tolerance to									
		Survival					Growth		Angling suscep- tibility			Tendency to migrate		Temper- ature > 70 °C		pH < 5.0		Catch & release			
		90 days		Over-winter																	
		R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L		
Crystal Creek	Crystal Creek (AK)	Mean	3.0	—	—	—	—	—	—	3.0	—	3.0	—	3.0	—	—	—	—	—	—	—
		No.	2	0	0	0	0	0	0	2	0	2	0	2	0	0	0	0	0	0	0
Feather River	Feather River (CA)	Mean	4.0	—	—	—	—	—	—	—	—	—	—	5.0	—	3.0	—	—	—	—	—
		No.	2	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
Ganaraska	Ganaraska	Mean	5.0	—	4.0	—	4.0	—	4.0	—	4.0	—	5.0	—	2.0	—	—	—	—	—	—
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0
Manistee River	Winter Run	Mean	3.0	—	3.0	—	3.0	—	3.0	—	2.5	—	4.0	—	2.5	—	—	—	—	4.0	—
		No.	1	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	0	0	1
Nimbus	Nimbus (CA)	Mean	—	—	—	—	—	—	—	—	—	—	—	3.0	—	—	—	—	—	—	—
		No.	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
Pennsylvania	Lake Erie	Mean	4.0	—	4.0	—	4.0	—	4.0	—	3.0	—	4.0	—	4.0	—	3.0	—	—	—	—
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0
Russian	Warm Springs	Mean	3.0	—	—	—	—	—	3.0	—	2.5	—	4.0	—	4.0	—	3.0	—	—	—	—
		No.	1	0	0	0	0	0	1	0	2	0	2	0	2	0	2	0	0	0	0
Skamania	RT-7-0-IN-MI-CD	Mean	4.0	—	4.0	—	4.0	—	4.0	—	4.0	—	4.0	—	4.0	—	4.0	—	—	—	—
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0
Skamania	Skamania (IN)	Mean	5.0	—	4.0	—	4.0	—	4.0	—	4.0	—	5.0	—	3.0	—	—	—	—	—	—
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0

Table 9-5. Steelhead Trout – Eight selected post-stocking traits (Relative ratings^{1/}) for reported broodstocks.

Strain	Broodstock	Post stocking										Tolerance to																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		Survival										Angling suscep- tibility										Tendency to migrate										Temper- ature > 70 °C										pH < 5.0										Catch & release																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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		R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L	R	L

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 10-1. Other salmonid species - Broodstocks reported to the National Fish Strain Registry - Trout (NFSR-T) with person to contact for additional information.

Strain	Broodstock	Contact	Address	Phone / Fax
Apache trout East Fork	East Fork (WC)	Bob David	USFWS, Alchessay-Williams Creek NFH, P.O. Box 398, Whiteriver, AZ 85941	Ph. 520-338-4901 Fax 520-338-4977
Profile Creek	Profile Creek	R. Thurow	USFS, Intermountain Research Station, Boise, ID	Ph. Fax
Arctic grayling Big Hole River	Big Hole River (MT)	Pat Dwyer	US FWS Fish Technology Center, 4050 Bridger Canyon Road, Bozeman, MT 59715	Ph. 406-587-9265 Fax 406-586-5942
Meadow Lake	Meadow Lake (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Artic char Floods Pond	Floods Pond	Frederick Kircheis	ME Atlantic Salmon Commission, 650 State Street, Bangor, ME 04401-5654	Ph. 207-941-4457 Fax
Sawtooth Lake	Sunapee Lake	Frederick Kircheis	ME Atlantic Salmon Commission, 650 State Street, Bangor, ME 04401-5654	Ph. 207-941-4457 Fax
Bull trout Thutada Lake	Peace River Drainage	James Baxter	Dept. of Zoology, U. of British Columbia, 6270 Univ. Boul., Vancouver, BC V6T 1Z4	Ph. Fax
Dolly varden Mendenhall Lake	Steep Creek	William Smoker	School of Fisheries and Ocean Science, U. of AK, Fairbanks, Juneau, AK 99801	Ph. Fax
Thutada Lake	Peace River Drainage	James Baxter	Dept. of Zoology, U. of British Columbia, 6270 Univ. Boul., Vancouver, BC V6T 1Z4	Ph. Fax
Tiekel River	Tiekel River	William Smoker	School of Fisheries and Ocean Science, U. of AK, Fairbanks, Juneau, AK 99801	Ph. Fax

Table 10-1. Other salmonid species - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Gila trout				
McKnight Creek	Main Diamond	Barbara Giesecke	Mescalero NFH, Box 247, 202 Trout Loop, Mescalero, NM 88230	Ph. 505-671-4401 Fax 505-671-4562
South Diamond	Magellon Creek	Barbara Giesecke	Mescalero NFH, Box 247, 202 Trout Loop, Mescalero, NM 88230	Ph. 505-671-4401 Fax 505-671-4562
Golden trout				
Benner Spring	Benner Spring (PA)	Patrick Ferko	PA F&B Commission, Reynoldsdale FCS, 162 Fish Hatchery Road, New Paris, PA 15554	Ph. 814-839-2211 Fax 814-839-4911
Surprise Lake	Surprise Lake (WY)	Alan Gettings	Dubois SFH, PO Box 704, Dubois, WY 82513	Ph. 307-683-2431 Fax
Wyoming Gold	Tokul Creek	James Dingwall	Wallace River SFH, 14418 383Road Avenue, Sultan, WA 98294	Ph. 206-793-0475 Fax 306-793-1382
Kokanee				
Deadwood	Deadwood (ID)	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114
Flaming Gorge	Lake Run	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Granby	Granby (CO)	Gerald Bennett	Box 545, Granby, CO 80446	Ph. 970-887-3654 Fax
Granby	Green River	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433
Lake Pend Oreille	Lake Pend Oreille (MT)	John Rankin	IDFG, Panhandle Region, 2750 Kathleen Avenue, Coeur d'Alene, ID 83815	Ph. 208-769-1414 Fax
New Fork Lake	New Fork Lake (WY)	Jim Barner	Wyoming Game & Fish Department, 3030 Energy Lane, Suite 100, Casper, WY 82604	Ph. 307-473-3416 Fax 307-473-3433

Table 10-1. Other salmonid species - Continued.

Strain	Broodstock	Contact	Address	Phone / Fax
Untitled Granite Creek	Lake Pend Oreille	Chris Downs	ID DF&G, 2750 Kathleen Avenue, Coeur d'Alene, ID 83814	Ph. 208-769-1414 Fax
Hybrid Hybrid	Rainbow/Golden Trout 92	Dale Arnold	London SFH, 2470 Roberts Mill Road S.W., London, OH 43140	Ph. 614-852-1412 Fax 614-852-1588
Rainbow/Cutthroat	Henry's Lake/Kamloops	Thomas Frew	IDF&G, P. O. Box 25, Boise, ID 83707	Ph. 208-334-3791 Fax 208-334-2114

Table 10-2. Other salmonid species - Selected broodstock, hatchery, and field performance characteristics for reported broodstocks.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
Apache trout									
East Fork	East Fork (WC)	N	F	A	East Fork, White River	Wild	944	1,2,3	3,5,9
Profile Creek	Profile Creek	N	----	----	----	Wild	----	----	----
Arctic grayling									
Big Hole River	Big Hole River (MT)	N	F	----	Big Hole River	Domestic	52	----	1,2,3,4,8,9,10
Meadow Lake	Meadow Lake (WY)	N	S	----	----	Wild	----	----	3,4
Arctic char									
Floods Pond	Floods Pond	N	S	----	----	Wild	----	1,2,3	----
Sawtooth Lake	Sunapee Lake	N	S	----	Sunapee Lake in mid 1920's	Wild	----	----	----
Bull trout									
Thutada Lake	Peace River Drainage	N	U	----	----	Wild	----	----	----
French River	French River (MN)	L	S	RS	Little Manistee Weir, Lake Michigan	Wild	----	----	3,4,8
Lake Michigan	Lake Oahe (Fall)	L	S	A	Lake Michigan	Wild	----	----	1,2,3,4,7,8,9,10
Salmon River	Salmon River (NY)	L	S	----	Michigan/Washington sources	Unknown	----	----	3,4
Dolly varden									
Mendenhall Lake	Steep Creek	N	U	----	----	Wild	----	----	----
Thutada Lake	Peace River Drainage	N	U	----	----	Wild	----	----	----
Tiekel River	Tiekel River	N	U	----	----	Wild	----	----	----

Table 10-2. Other salmonid species - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- ation ^{6/}
Gila trout									
McKnight Creek	Main Diamond	N	F	A	McKnight Creek, Gila Wilderness	Captive	----	1,3	----
South Diamond	Magellon Creek	N	F	A	Trail Canyon, Magellon Creek	Wild	----	1,3	----
Golden trout									
Benner Spring	Benner Spring (PA)	----	S	----	----	Domestic	----	----	----
Surprise Lake	Surprise Lake (WY)	N	S	----	Surprise lake (Feral brood fish)	Wild	----	----	3,4
Wyoming Gold	Tokul Creek	N	S	----	Tokul Creek (Feral brood fish)	Wild	----	----	3,4
Hybrid									
Hybrid	Rainbow/Golden Trout 92	Y	S	A	Bowden, Shepherd of the Hills & Manchester	Unknown	300	----	4,5
Rainbow/ Cutthroat	Henry's Lake/Kamloops		L	S	RS Henry's Fork Rainbows	Henry's Lake Cutthroats by			Wild
Kokanee									
Deadwood	Deadwood (ID)	L	S	RS	unknown	Wild	----	----	4,8
Flaming Gorge	Lake Run	N	S	----	Feral brood fish from Flaming Gorge	Wild	----	----	3,4
Granby	Granby (CO)	N	S	----	Grandy Reservoir (feral brood fish)	Wild	----	----	4,10
Granby	Green River	N	S	A	Granby Lake, CO or Feral downstream migration	Unknown	----	----	3,4
Lake Pend Oreille	Lake Pend Oreille (MT)	L	S	----	Flathead Lake, Montana	Wild	----	----	4,8

Table 10-2. Other salmonid species - Continued.

Strain	Broodstock	Avail- Ability ^{1/}	Type of facility ^{2/}	Disease Status ^{3/}	Origin	Broodstock type	Estim- ated N _e ^{4/}	Genetic analysis ^{5/}	Management recommen- dation ^{6/}
New Fork Lake	New Fork Lake (WY)	N	S	A	Sheep Creek, Utah	Unknown	----	----	3,4

^{1/} Availability codes: Y = Yes - Broodstock is available, N = No - Broodstock is not available, and L = Broodstock available on a limited basis.

^{2/} Type of facility codes: F = Federal, S = State, U = University, T = Tribes, and P = Private producer.

^{3/} Disease classification codes: A - No listed pathogens detected; AS - *Aeromonas salmonicida* (Furunculosis); RD - *Renibacterium salmonarum*, (Bacterial Kidney Disease); B-SC - *Ceratomyxa shasta*; IPNV - *Infectious Pancreatic Necrosis virus*; VHSV - *Viral Hemorrhagic Septicemia*; IHNV - *Infectious Hematopoietic Necrosis Virus*; OMV - *Oncorhynchus masou virus*; YR - *Yersinia ruckeri* (Enteric Redmouth); B-SW - *Myxobolus cerebralis* (Whirling disease); B-SP - Proliferative Kidney Disease agent; B-VL - EED virus; () - pathogen not found, but is suspect; C - Broodstock not inspected or no information provided.

^{4/} Effective population number (N_e) was estimated based on the formula $N_e = 4(N_m + N_f) / (N_m N_f)$. N_m = Number male parents and N_f = Number female parents.

^{5/} Genetic analysis type codes: 1 = Allozyme; 2 = Nuclear DNA; 3 = Mitochondrial DNA; 4 = Microsatellite; 5 = Meristics

^{6/} Management recommendation codes: 1 = Raceway culture, 2 = Tank culture, 3 = Fingerling stocking (rivers), 4 = Fingerling stocking (Lakes), 5 = Catchable stocking (Rivers), 6 = Catchable stocking (Lakes), 7 = Stock natural Rivers, 8 = Stock natural lakes, 9 = Restoration stocking (Rivers), and 10 = Restoration stocking (Lakes).

Table 10-3. Other salmonid Species - Selected reproductive performance and cultural trait information for reported broodstocks.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		Transp- ortation
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling swim-up	1-year crowd- ing	
Apache Trout										
East Fork	East Fork (WC)	101	531	Mean No.	236.00 2	5.75 2	87 2	3.0 2	2.5 2	3.0 2
Arctic Grayling										
Big Hole River	Big Hole River (MT)	401	531	Mean No.	480.00 1	9.00 1	---- 0	2.0 1	3.0 1	---- 0
Meadow Lake										
	Meadow Lake (WY)	----	----	Mean No.	156.00 1	8.80 1	65 1	4.0 1	3.0 1	4.0 1
Gila Trout										
McKnight Creek	Main Diamond	201	430	Mean No.	---- 0	---- 0	---- 0	3.0 1	2.0 1	3.0 1
Golden Trout										
Surprise Lake	Surprise Lake (WY)	----	----	Mean No.	410.00 1	9.50 1	77 1	4.0 1	4.0 1	4.0 1
Hybrid										
Hybrid	Rainbow/Golden Trout 92	----	----	Mean No.	328.00 1	10.00 1	68 1	2.0 1	2.0 1	1.0 1
Rainbow/Cutthroat										
	Henry's Lake/Kamloops	301	331	Mean No.	149.00 1	---- 0	95 1	4.0 1	4.0 1	4.0 1

Table 10-3. Other salmonid Species - Continued.

Strain	Broodstock	Spawning Period		Hatch- bility (%)	Weight		Survival 90 d. (%)	Tolerance to stress ^{1/}		
		Start (Mo-dd)	End (Mo-dd)		90 d (No/lb)	365 d (No/lb)		Handling	1-year swim-up	Crowd- ing Transp- ortation
Kookanee Deadwood	Deadwood (ID)	801	930	Mean No.	545.00 1	----	95 1	5.0 1	5.0 1	5.0 1
						0		----	0	1
Granby	Green River	----	----	Mean No.	145.00 1	17.00 1	94 1	3.0 1	3.0 1	4.0 1
Lake Pend Oreille	Lake Pend Oreille (MT)	1101	131	Mean No.	2000.00 1	----	98 1	4.0 1	4.0 1	3.0 1
						0				

^{1/} Traits were measured with relative ratings (See Table 2). Tabled values are an arithmetic average of subjective ratings provided by broodstock managers and field biologists completing surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Table 10-4. Other salmonid species – Continued.

Strain	Broodstock	Salmonid diseases ^{2/}								
		1	2	3	4	5	6	7	8	9
Kokanee Deadwood	Deadwood (ID)	Mean No.	---	---	---	---	---	---	4.0 1	---
			0	0	0	0	0	0	0	0
Flaming Gorge	Lake Run	Mean No.	---	---	---	---	---	---	3.0 1	---
			0	0	0	0	0	0	0	0
Granby	Granby (CO)	Mean No.	---	---	---	---	---	---	4.0 1	---
			0	0	0	0	0	0	0	0
Granby	Green River	Mean No.	---	---	---	---	---	---	3.0 1	---
			0	0	0	0	0	0	0	0
Lake Pend Oreille	Lake Pend Oreille (MT)	Mean No.	---	2.0 1	---	---	---	---	1.0 1	4.0 1
			0	1	0	0	0	0	0	1
New Fork Lake	New Fork Lake (WY)	Mean No.	---	---	---	---	---	---	---	---
			0	0	0	0	0	0	0	0

^{1/} Disease Resistance Relative Rating (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each disease provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, and 5 = very resistant. Only rating values of 1 to 5 were used to calculate the mean values reported above.

^{2/} Disease Codes 1 = Furunculosis (*Aeromonas salmonicida*), 2 = Bacterial Kidney Disease (*Renibacterium salmonarum*), 3 = Enteric Redmouth (*Yersinia ruckeri*), 4 = *Ceratomyxa shasta*, 5 = infectious Pancreatic Necrosis, 6 = Viral Hemorrhagic Septicemia, 7 = infectious Hematopoietic Necrosis, 8 = Bacterial Gill Disease, and 9 = Cold Water Disease.

Table 10-5. Other salmonid species – Continued.

Strain	Broodstock	Post stocking										Tolerance to								
		Survival						Growth				Angling suscep- tibility	Tendency to migrate	Temper- ature > 70 °C	pH		Catch & release			
		90 days		Over-winter											< 5.0		R		L	
		R	L	R	L	R	L	R	L	R	L				R	L	R	L	R	L
Kookanee Deadwood	Deadwood (ID)	Mean	1.0	4.0	1.0	4.0	1.0	4.0	1.0	4.0	1.0	4.0	----	5.0	3.0	4.0	----	----	----	
		No.	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	
Flaming Gorge	Lake Run	Mean	3.0	----	----	----	3.0	----	2.0	----	2.0	----	4.0	----	3.0	----	3.0	----	----	
		No.	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	0	
Granby	Granby (CO)	Mean	5.0	----	5.0	----	5.0	----	5.0	----	5.0	----	4.0	----	3.0	----	----	----	----	
		No.	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	
Granby	Green River	Mean	3.0	----	----	----	3.0	----	2.0	----	2.0	----	4.0	----	3.0	----	3.0	----	----	
		No.	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	0	
Lake Pend Oreille	Lake Pend Oreille (MT)	Mean	----	4.0	----	3.0	----	3.0	----	4.0	----	4.0	----	4.0	----	2.0	----	3.0	----	
		No.	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
New Fork Lake	New Fork Lake (WY)	Mean	3.0	----	----	----	3.0	----	2.0	----	2.0	----	4.0	----	3.0	----	3.0	----	----	
		No.	1	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	0	

^{1/} Trait Relative Ratings (See Table 2) - Tabled values are an arithmetic average of subjective ratings for each trait provided by broodstock managers and field biologists completing the broodstock surveys. Ratings are: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, and 5 = superior. Only rating values of 1 to 5 were used to calculate the mean values reported above.

Appendix A. National Survey of Inland Trout Strains – The NFSR-T survey form (blank) is provided for database users, cooperators, and clients to submit new information on salmonid strains/broodstocks (wild, captive or domestic) for inclusion in NFSR-T.

NATIONAL SURVEY OF INLAND TROUT STRAINS

SECTION 1 - Broodstock information

1. Species: _____

2. Strain name of broodstock (USUALLY, name of hatchery or water body where fish ORIGINATED) _____

3. Broodstock name (Name used by managing agency to identify this group of fish): _____

4. Designate a contact person from your organization we can contact in the future for additional information about this strain or broodstock and to clarify questions that may arise.

Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

Type Organization (Circle appropriate response)? A. Federal B. State C. Private D. Tribal E. University, F. Other _____

5. Are there publications or in-house reports describing the origin, breeding history, reproductive characteristics or performance of this broodstock? If there are, please list below and identify a source where copies can be obtained. Identified reports, where available, will be added to the Northern Appalachian Research Laboratory library, Route # 4, Box 63, Wellsboro, PA 16901. All reports collected will be made available to cooperators and clients seeking information on specific broodstocks.

AUTHOR	DATE	TITLE	PUBLISHED BY
a. _____			
b. _____			
c. _____			
d. _____			

6. Identify other individuals who have experience with this strain/broodstock and could provide additional information such as broodstock origin, reproduction, life history, genetic traits, cultural performance, or post-stocking success in different management situation. (NOTE: these individuals will be contacted to provide information similar to that requested here).

A. Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

B. Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

C. Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

NATIONAL SURVEY OF INLAND TROUT STRAINS

SECTION 2 - Broodstock information

7. Current location (Name of hatchery, farm, or water body) of broodstock?

NAME: _____

8. Year when original broodstock was started (YEAR)? _____

9. Source where the original broodstock was obtained (Location name - i.e., hatchery, farm, or water body)?

NAME: _____

10. The original broodstock source was classified as (CIRCLE ONE)?

- a. Domestic - Broodstock from parents reared in captivity for one or more generations.
- b. Wild - Broodstock from parents that were a natural or free ranging population.
- c. Captive - Broodstock from wild parents that were brought into captivity as eggs, larvae, or juveniles. Progeny from captive broodstock (used for broodstock) are domestic broodstock.
- d. Unknown

11. How many females and males from the original source population contributed spawns to establish the first broodstock?

a. No. Males _____ b. No. Females _____

Describe the breeding method used to produce replacement broodstock in questions 12-24.

12. Are male and female parents taken from a single year-class? (CIRCLE ONE).

a. Yes b. No c. Unknown

13. What is average age (years) of broodstock when the next broodstock generation is produced?

a. Males _____ years b. Females _____ years

14. How many brood fish (total) are used as parents to produce the next generation broodstock lot?

a. Number males _____ b. Number females _____

15. Males and females are chosen for broodstock based on the following traits? (CIRCLE APPLICABLE RESPONSES)

- a. Random (No pairing criteria)
- b. Body color
- c. Body size
- d. Body conformation
- e. Spawning age (years)
- f. Spawn early in season
- g. Spawn late in season
- h. Other pairing criteria were --(List trait or traits):

1) _____

2) _____

16. The breeding system used to maintain this broodstock is: (CIRCLE APPLICABLE RESPONSES)

- a. Random mating - Males and females mature on a given date are randomly paired for spawning without regard to other traits
- b. Family selection - Brood fish are chosen from families with superior performance for one of more traits
- c. Index selection - Broodstock are chosen based on a performance index of 2 or more traits
- d. Mass selection - Broodstock are chosen based on individual performance for one trait.
- e. Pedigree selection - Broodstock are chosen based on relationship to specific ancestors
- f. Crossbreeding - Individuals are intentionally mated to individuals of a different broodstock, strain, or population.
- g. Other breeding system: _____

h. Describe how the breeding system is applied to this broodstock.

17. Replacement broodstock come from (CIRCLE ONE):

- a. Spawns on a single spawning date at or near the peak of the spawning season.
- b. Spawns on 2-3 spawning dates near the peak of the spawning season.
- c. Spawns taken throughout the spawning season.
- d. Wild fish spawns
- e. Broodstock are NOT REPLACED.
- f. Other methods, DESCRIBE _____

18. Is the broodstock "renewed" periodically by the addition of genetic material from the "original broodstock" source? (CIRCLE ONE)

a. Yes b. No

c. If YES,

1) Broodstock is supplemented with genetic material from the original source every _____ yrs.

2) Describe procedure used to add new genetic material to the broodstock.

NATIONAL SURVEY OF INLAND TROUT STRAINS

SECTION 2 - Broodstock information

19. During spawning season, broodstock are spawn checked

a. Every ____ days.

20. Male to female ratio (M/F) used in the spawning operation (i.e., 1 male per female, 2 males per female, or 3 males per 2 females)?

a. Production lots: No. Males ____ No. Females ____

b. Broodstock lots: No. Males ____ No Females ____

21. Is milt from multiple males pooled prior to fertilization of eggs? (CIRCLE ONE)

a. Yes b. No

c. If YES,

1) Number of males combined per pool? ____ males

2) Method used to pool milt? (DESCRIBE) ____

22. Is natural spawning season artificially modified (accelerate, delay or shorten duration)? (CIRCLE ONE)

a. Yes b. No c. Unknown

d. If YES, describe method used (light control, temperature, etc.)

23. Identify life stages when fish numbers in broodstock lots are reduced. Respond YES or NO for each life stage. If YES, identify procedure used to reduce fish numbers.

Life Stage	YES or No	Procedure based on what trait or trait(s)	Number is reduced:	
			from	to
a. Green eggs	____	_____	_____	_____
b. Eyed eggs	____	_____	_____	_____
c. First feed	____	_____	_____	_____
d. Feeding fry	____	_____	_____	_____
e. Fingerling	____	_____	_____	_____
f. Yearling	____	_____	_____	_____
g. Sub adult	____	_____	_____	_____
h. Adult	____	_____	_____	_____

24 What is current inventory of fish being held for future broodstock needs? List year-classes separately from youngest to oldest. If sex of fish is unknown, record information assuming a 50/50 ratio.

Year spawned (young to old)	Number fish currently on hand	Mean fish Weight (pounds)	Number of parent of this year-class
	Male/Females	Male/Females	Male/Females
1. ____	____/____	____/____	____/____
2. ____	____/____	____/____	____/____
3. ____	____/____	____/____	____/____
4. ____	____/____	____/____	____/____

25 Broodstock reproductive characteristics:

Trait	Males	Females
a. Spawning period (month/day).	From ____/____ To ____/____	From ____/____ To ____/____
b. Age (years) when first mature.	_____	_____
c. % fish mature in year when lot was first mature (age in Q 25b above).	_____	_____
d. Eggs per female at first maturity.	_____	_____
e. Mean fish weight (lb/fish) at first maturity.	_____	_____
f. Eggs per female at 2nd maturity.	_____	_____
g. Mean fish weight (lb/fish) at 2 nd maturity.	_____	_____
h. Eyed eggs or fry are available for distribution (month/day).	From ____/____ To ____/____	From ____/____ To ____/____

26. Disease classification (FWS classification system) of this broodstock for the past 5 years is:

- a. 2002 ____ b. 2001 ____
c. 2000 ____ d. 1999 ____
e. 1998 ____ f. Not classified ____

NATIONAL SURVEY OF INLAND TROUT STRAINS

SECTION 2 - Broodstock information

27. Are fish from this broodstock available to other agencies/organizations within the aquaculture industry (federal, state, and private sectors) to start new broodstocks and to conduct strain evaluations trials? (CIRCLE ONE)

- a. Yes b. No c. Limited**
(** i.e., eggs/fish are available under certain conditions)

d. If Yes or Limited, what life stages are available? (CIRCLE APPROPRIATE RESPONSES)

- 1) Eggs 2) Fry 3) Fingerlings 4) Adults

e. Can fish or eggs from this broodstock be purchased (CIRCLE ONE)?

- 1) Yes 2) No

28. Has broodstock been genetically characterized? (CIRCLE ONE)

- a. Yes b. No c. Unknown

d. If Yes,

1) Characterization type (CIRCLE TYPES APPLIED)

- a) Allozyme analysis b) Mitochondrial DNA
c) Nuclear DNA d) Microsatellite
e) Other _____

2) Characterization done by (person or laboratory): _____

3) Date characterization done (month/year): ____/____

4) Are copies of report available (CIRCLE ONE):

- a) Yes b) No c) Unknown

d) IF yes, address where copies can be obtained:

Name: _____

Address _____

City: _____ State: _____, Zip _____

29. List any information (characteristics, traits, life history, etc.) about this broodstock; you feel would be useful to potential users.

NATIONAL SURVEY OF TROUT STRAINS

SECTION 3, Hatchery/captive production

30. Source of eggs or fish evaluated in this production report (Hatchery, farm, or water body)

Name: _____

31. Production facility where fish were reared:

Name _____

32. Management programs for which fish were produced? (CIRCLE APPLICABLE RESPONSES)

- a. Recreational fishery
b. Food fish
c. Supplementation
d. Threatened/endangered

33. Life stage when the fish were stocked or marketed? (CIRCLE APPLICABLE RESPONSES)

- a. Eggs b. Fry
c. Fingerlings d. Catchable
e. 3/4 to 1.5 pound f. Adult
g. Other _____

34. Water source (type) used to rear these fish? (CIRCLE APPLICABLE RESPONSES).

- a. Surface b. Well c. Spring
d. Reconditioned/Recirculated
e. Other _____

NATIONAL SURVEY OF TROUT STRAINS

SECTION 3, Hatchery/captive production

35. Water quality parameters

a. Water Temperature (° F or ° C -- CIRCLE ONE)

January _____ May _____ September _____

February _____ June _____ October _____

March _____ July _____ November _____

April _____ August _____ December _____

Water parameters	Mean	High	Low
b. pH:	_____	_____	_____
c. Total Hardness (CaCO ₃):	_____	_____	_____
d. Alkalinity	_____	_____	_____
e. Dissolved oxygen (ppm)	_____	_____	_____
f. Gas supersaturation	_____	_____	_____

36. Information provided in this report are based on the following production year-classes.

a. If a single production year-class, year was: _____

b. If multiple production year-classes years were :

Beginning year _____ Ending year _____

37. Rearing unit types used to hold production lots during the following life stages (CIRCLE APPROPRIATE RESPONSES)?

	Fry	Fingerling	Sub-adult	Adult
a. Raceways	Raceways	Raceways	Raceways	Raceways
b. Circular tanks	Circular tanks	Circular tanks	Circular tanks	Circular tanks
c. Other tank	Other tank	Other tank	Other tank	Other tank
d. Ponds	Ponds	Ponds	Ponds	Ponds
e. Other _____	Other _____	Other _____	Other _____	Other _____

38. Were outside rearing units covered to protect fish from direct sunlight? (CIRCLE ONE)

a. Yes b. No c. Unknown

39. Feed type fed and feeding methods used at each life stage (CIRCLE CHOICES FOR EACH LIFE STAGE):

Life stage	Feed type	Feed method	Feed type (Describe)	Feed Manufacture
a. <u>Fry</u>	Natural	Hand	Granular	Commercial
	Formulated	Automatic	Pelleted	Self-processed
			Self-feeder	
b. Fingerling	Natural	Hand	Granular	Commercial
	Formulated	Automatic	Pelleted	Self-processed
			Self-feeder	
c. <u>Sub-adult</u>	Natural	Hand	Granular	Commercial
	Formulated	Automatic	Pelleted	Self-processed
			Self-feeder	
d. <u>Adult</u>	Natural	Hand	Granular	Commercial
	Formulated	Automatic	Pelleted	Self-processed
			Self-feeder	

40. Fish reaction to presence of cultural personal (CIRCLE ONE):

- a. Approach culturist to feed
- b. No reaction to culturist
- c. Slowly move away from culturist
- d. "Wild" flight respons-rapidly move to far side of tank
- e. Unknown

41. Do fish require special consideration (beyond that normally used for fish of this species) during handling and transport? (CIRCLE ONE)

- a. Yes b. No
- c. If yes, what are the special handling requirements?

NATIONAL SURVEY OF TROUT STRAINS

SECTION 3, Hatchery/captive production

42. Growth, survival, and feed conversion during production from hatch to stocking or market. Record mean and range values for each trait..

Traits	Mean	High	Low
a. % eye of egg lots (green egg to eyed egg stage)	_____	_____	_____
b. % hatch (eyed stage to hatch)	_____	_____	_____
c. % fry survival (hatch to first feeding stage).	_____	_____	_____
d. % fry survival (first feeding to 90 d on feed).	_____	_____	_____
e. Mean fish weight (No./lb) at 90 d on feed.	_____	_____	_____
f. Mean fish weight (No./lb) at 1-year-of-age.	_____	_____	_____
g. Feed conversion from 90 d to 1 year. (lb feed/lb weight gain)	_____	_____	_____
h. Frequency of yearling precocious males (%)	_____	_____	_____

43. Tolerance to stress -- Based on your experience with other strains, rate the relative tolerance of these fish to each stress category below using the scale: 0 = unknown, 1 = poor, 2 = below average, 3 = average, 4 = above average, 5 = good.

Type of stress	Relative Stress Tolerance
a. Handling stress -- swim-up to 90 days	_____
b. Handling stress -- 90 days to 1 year	_____
c. Handling stress -- during spawning period	_____
d. Tolerance to crowding	_____
e. Tolerance to temperature fluctuation	_____
f. Tolerance to crowding during transport	_____

44. Disease resistance-- Based on your experience with other strains, rate the relative resistance of these fish to each of the following diseases using the scale: 0 = unknown, 1 = very susceptible, 2 = susceptible, 3 = average, 4 = resistant, 5 = very resistant. *** If a given disease has not occurred at this facility, enter zero (0) for UNKNOWN.

Disease	Relative disease resistance
a. Furunculosis	_____
b. Bacterial Kidney Disease (BKD)	_____
c. Enteric Redmouth (ERM).....	_____
d. Ceratomyxa Shasta	_____
e. Infectious Pancreatic Necrosis (IPN)	_____
f. Viral Hemorrhagic Septicemia (VHS).....	_____
g. Infectious Hematopoietic Necrosis (IHN)	_____
h. Bacterial Gill Disease	_____
i. Coldwater disease (Flexibacter psychrophilus).....	_____
j. Other (list):	_____

45. Record additional information (characteristics, traits, life history, etc.) about this broodstock, you feel would be useful to potential users.

NATIONAL SURVEY OF TROUT STRAINS

SECTION 4, Field performance information

46. Field performance characteristics: Based on your experience with other strains, rate the relative performance of these fish for each of the following traits using the following scale: 0 = Unknown, 1 = Poor, 2 = Below average, 3 = Average, 4 = Above average, and 5 = Superior. (* Mark only combinations where this strain was actually stocked.)

Trait	Relative rating				
	Stream	River	Pond (<20 acres)	Impoundment (20-500 acres)	Impoundment (>500 acres)
a. Survival after stocking	_____	_____	_____	_____	_____
b. Growth rate after stocking	_____	_____	_____	_____	_____
c. Susceptibility to angling	_____	_____	_____	_____	_____
d. Tolerance to water temperature (>70 F)	_____	_____	_____	_____	_____
e. Tolerance to low pH levels (<5.0)	_____	_____	_____	_____	_____
f. Fish survival into 2nd fishing season	_____	_____	_____	_____	_____
g. Tendency to migrate	_____	_____	_____	_____	_____
h. Tolerance to catch and release	_____	_____	_____	_____	_____
i. Other traits measured: (1) _____	_____	_____	_____	_____	_____
j. Other traits measured: (2) _____	_____	_____	_____	_____	_____

47. For each combination of fishery type and life stage stocked (listed below), rate the relative performance of this strain using the scale: 0 = Unknown, 1 = Poor, 2 = Below average, 3 = Average, 4 = Above average, and 5 = Superior. (* Mark only combinations where this strain was actually stocked.)

Fishery Type	Life stage stocked		
	Fry	Fingerling	Yearling
a. Streams	_____	_____	_____
b. Rivers	_____	_____	_____
c. Ponds (< 20 acres)	_____	_____	_____
d. Impoundments (20-500 acres)	_____	_____	_____
e. Impoundments (> 500 acres)	_____	_____	_____
f. Tail waters	_____	_____	_____
g. 2-Story fisheries	_____	_____	_____
h. Eutrophic lakes	_____	_____	_____
i. Oligotrophic lakes	_____	_____	_____

48. Does this fish strain become a piscivore at some life stage? (CIRCLE ONE)

a. Yes b. No c. Unknown

d. If YES, at what stage (identify age, length or weight if know and measurement units)?

49. Does this fish strain have special habitat preference? (CIRCLE ONE)

a. Yes b. No c. Unknown

b. If YES, describe: _____

NATIONAL SURVEY OF INLAND TROUT STRAINS

---- INSTRUCTIONS ----

This form is designed to collect a standard set of information on known strains/broodstocks (wild and domestic) of the following salmonid species:

Scientific name	Common name	Scientific name	Common name
<i>Oncorhynchus aguabonita</i>	Golden trout	<i>Salmo trutta</i>	Brown trout
<i>Oncorhynchus apache</i>	Apache trout	<i>Salvelinus alpinus</i>	Arctic char
<i>Oncorhynchus clarki</i>	Cutthroat trout	<i>Salvelinus confluentus</i>	Bull trout
<i>Oncorhynchus gilae</i>	Gila trout	<i>Salvelinus fontinalis</i>	Brook trout
<i>Oncorhynchus mykiss</i>	Rainbow trout	<i>Salvelinus malma</i>	Dolly varden
<i>Oncorhynchus nerka</i>	Kokanee	<i>Salvelinus namaycush</i>	Lake trout
<i>Salmo salar</i>	Atlantic salmon	<i>Thymallus arcticus</i>	Arctic grayling

The survey is composed of four sections: Strain identification, Broodstock information, Hatchery/culture performance, and Field performance. Request that each cooperator complete Section one in addition to any other sections for which they have information.

1. If the cooperator does not have broodstock information, enter the source where the eggs or fish were obtained.
2. If the cooperator does not have Hatchery/culture information, enter name of a hatchery where fish were cultured.
3. If the cooperator does not have field performances information, enter name of field biologist or agency that has monitored these fish after stocking.

Please provide name, address and telephone number for additional contact persons for this strain at the bottom of this page. (Where possible, broodstock managers should complete the Strain identification and Broodstocks information sections, hatchery managers the hatchery/culture performance section, and field biologists the Field performance section.)

If you have questions about any of the survey questions, contact one of the following persons:

NAME	PHONE	FAX	E-MAIL
Harold L Kincaid	570-724-3322 ext 232	570-724-2525	hkincaid@usgs.gov
Les Mengel	570-724-3322 ext 236	570-724-2525	ljmengel@usgs.gov

Mail completed forms to: **Dr. Harold L. Kincaid**
USGS, Northern Appalachian Research Laboratory
R.R.4, Box 63
Wellsboro, PA 16901

Your assistance in providing the requested information is essential for us to make future releases as complete as possible. Your assistance is appreciated.

Thank you.

Appendix B. National Fish Strain Registry - Trout (NFSR-T): New Strain/Broodstock Recommendation Form. --- Recommendation form used by fisheries personnel to identify new salmonid strains/broodstocks (wild, captive, or domestic) for inclusion in the database. This recommendation form may be reproduced locally.

NATIONAL SURVEY OF INLAND TROUT STRAINS

New strain/broodstock recommendation form

1. Species _____

2. Strain name _____
(Usually name of water body, drainage, of hatchery where fish originated):

3. Broodstock name _____
(Usually the name used by management to identify this group of fish):

4. Contact person who can provide performance information and clarify future questions that may arise.

Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

Type Organization (Circle appropriate response)? A. Federal B. State C. Private D. Tribal E. University F. Other _____

5. Recommended by:

Name: _____ Title: _____ Agency/organization: _____

Address: _____ City: _____ State: _____ Zip code: _____

Phone No. (____) _____ FAX No. (____) _____ E-Mail: _____

INSTRUCTIONS

The National Fish Strain Registry - Trout (NFSR-T) is designed to collect a standard set of information on known strains/broodstocks (wild and domestic) of the following salmonid species:

Scientific name	Common name	Scientific name	Common name
<i>Oncorhynchus apache</i>	Apache trout	<i>Salmo trutta</i>	Brown trout
<i>Oncorhynchus aguabonita</i>	Golden trout	<i>Salvelinus alpinus</i>	Arctic char
<i>Oncorhynchus clarki</i>	Cutthroat trout	<i>Salvelinus confluentus</i>	Bull trout
<i>Oncorhynchus gilae</i>	Gila trout	<i>Salvelinus fontinalis</i>	Brook trout
<i>Oncorhynchus mykiss</i>	Rainbow trout	<i>Salvelinus malma</i>	Dolly varden
<i>Oncorhynchus nerka</i>	Kokanee	<i>Salvelinus namaycush</i>	Lake trout
<i>Salmo salar</i>	Atlantic salmon	<i>Thymallus arcticus</i>	Arctic grayling

If you are aware of strains or broodstocks of these species not currently in the NFSR-T, please identify those broodstocks using this form. Include the name of one or more person(s) who can provide information on each broodstock identified. We will contact these person(s) to obtain the necessary information on each recommended broodstock and include that broodstock in future NFSR-T releases. A separate form must be used for each broodstock recommended.

Mail completed recommendations to: **Dr. Harold L. Kincaid**
USGS, Northern Appalachian Research Laboratory
R.R.4, Box 63
Wellsboro, PA 16901

Your assistance in providing the requested information is essential for us to make future releases as complete as possible. Your assistance is appreciated.

Thank you

[illegible]

U.S. Geological Survey
Leetown Science Center
Northern Appalachian Research Laboratory
RD #4, Box 63
Wellsboro, PA 16901